AVN-01

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – S2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	**Name of the Agency Contact for the Project Request:** Janeen K. Gaskins	**2.**	**Telephone:** 623.478.3025
3.	**E-mail** jgaskins@avondale.org	**4.**	**Date:** 09/01/06

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   City of Avondale

2. Year (Please check only one box):

   ☒ FY 2008 ☐ FY 2009 ☐ FY 2010 ☐ FY 2012

3. Project Location (The project limits if applicable):

   The equipment for this project will be located in the City of Avondale City Hall Building located at 11465 West Civic Center Drive, Avondale Arizona 85323

4. Type of Work (Description of the work to be performed):

   The City of Avondale is looking to establish a Strategic Plan for our advanced traffic management system and facility design for the operation center.

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $350,000

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   $150,000

8. Type of Local Funds to be Used: (Please check only one box.):

   ☐ HURF ☐ Impact Fees
   ☒ General Fund ☐ Bond Proceeds
   ☐ Sales Tax ☐ Private
   ☐ Property Tax ☐ Other, Please specify: _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

   $500,000

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

   Please see Attachment A

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.
   Avondale has transportation issues which can be resolved through an effective Information Technology System. Issues identified by the City's Transportation Plan include:

Traffic Signal Coordination	**Traveler Information Dissemination**
Limited Resources	**Event Traffic Management**

   Avondale is requesting funding for a Strategic Plan for the advanced traffic management system (ATMS) and facility design for the operation center (TOC). Avondale has already installed a wireless component to the ATMS. The Strategic Plan goes one step further to include a Traffic Monitoring System; Information Dissemination; and Communication Infrastructure. These elements work together to complement one another and ensure compatibility with other Arizona Systems. The Strategic Plan requires Avondale to work with ADOT, MCDOT, neighboring cities, stakeholders and a reputable consulting agency. The coordination will include citizen participation and research that is has an estimated cost of $500,000. The facility design of the TOC would enable Avondale build one key element of the ATMS project.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

Avondale has doubled its population since the 2000 Census. This proposed Strategic Master Plan would provide the following:

- **Traffic Signal Coordination: resulting in less delays, decrease travel time and seamless traffic operations.**
- **Traveler Information Dissemination: resulting in dynamic message signs, 511 telephone system, 511 web portal, public radio announcements and emergency alerts.**
- **Event Traffic Management: large event management for the Phoenix International Raceway, Civic Center Concert, Community College Events, and Community Park Programs. It can also be used for Homeland Security issues.**
- **Limited Resource: a Transportation Operation Center that could serve as a template for other jurisdictions.**

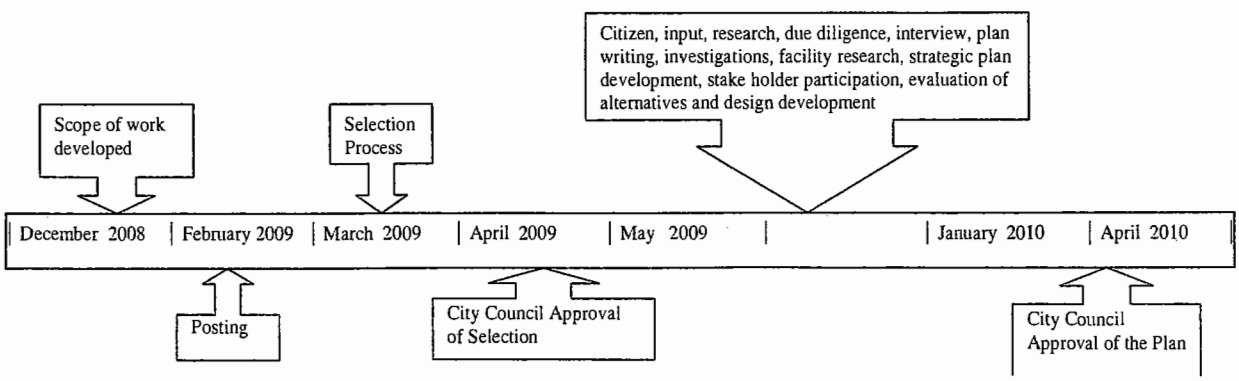
The plan will address these areas allowing Avondale to decrease pollution, decrease congestion, increased safety, contribute to regionalism and provide an opportunity to be prepared for terrorism and/or natural disasters.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

This portion of the grant request is only of the Strategic Plan Design. The entire cost breakdown is included in attachment B. Please note that the City intends to bid out the design an it will include citizen participation, stake holder participation research and analysis. The final product will be a plan that outlines each component of the program and links them together for a cohesive functional system. Please see Attachment B

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

This is a design project and will take 16 months to complete. The City of Avondale recently completed the Avondale Transportation Plan which took 13 months to compete. This project will follow a similar outline. The project will take more time than most designs because the research component and the development of a Strategic Plan with this many elements needs to be coordinated appropriately.



ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **N/A**	2. Name of the Roadway Section Used for the ADT Estimate: **N/A**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☐ Arterial Street ☐ Collector Street ☒ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **N/A**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **N/A**	6. Length of the Facility (in miles): **N/A**
7. Township Coordinate of the Midpoint of the Facility: **N/A**	8 Range Coordinate of the Midpoint of the Facility: **N/A**	9. Section Coordinate of the Midpoint of the Facility: **N/A**

10. If the project is expected to improve traffic signal coordination, please do the following:
    a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **Avondale is not providing traffic signal coordination with this project.**
    b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☐ Includes Traffic Signal Improvements for a Single Agency
- ☐ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☒ The Project Conforms to Local Land Use Plans
- ☐ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only one box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
- ☐ Pavement Management System (PMS)
- ☐ Public Transportation Management System (PTMS)
- ☐ Safety Management System (SMS)
- ☐ Intermodal Management System (IMS)
- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

This is the only ITS project that the city is applying for. This is the number one priority

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website**.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website) **This project will be a significant effort to coordinate all elements of a city wide ATMS in order to manage arterial roadway traffic effectively, minimize delay and coordinate arterial ITS functions.**
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects) **The City of Avondale is requesting $500,000 for this project. Avondale will pay for the match funding in the amount of $150,000. This will be funded from the Engineering Departments Traffic Division Budget.**
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks **Please see question 5 of this application.**
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr) **The City of Avondale estimates that the design of the project would take no more than the suggested 16 month. Please see attachment D.**
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel **The City of Avondale's Engineering Department will oversee this project. The annual budget allocates maintenance funding and replacement funding for this project. The plan will outline the specific policies for the both maintenance and replacement for the equipment.**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming) **Avondale agrees to adhere to all necessary requirements.**
- Applicable ITS User Services, Market Packages from National ITS Architecture **Avondale will have this outlined in the scope of the plan**
- Required communications for data sharing with other agencies (if any) **Avondale will have this outlined in the scope of the plan.**
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies) **Attachment C**

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.

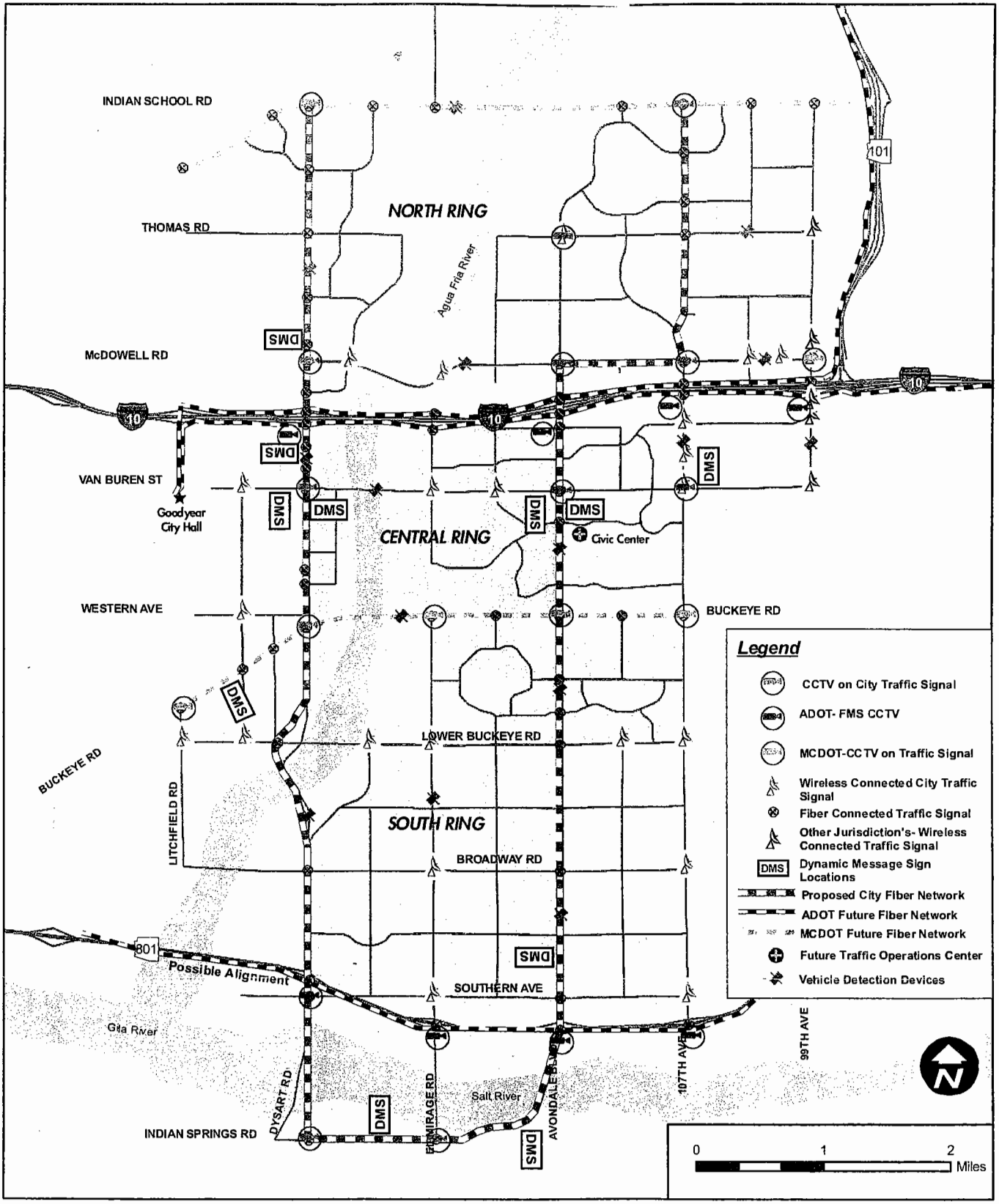
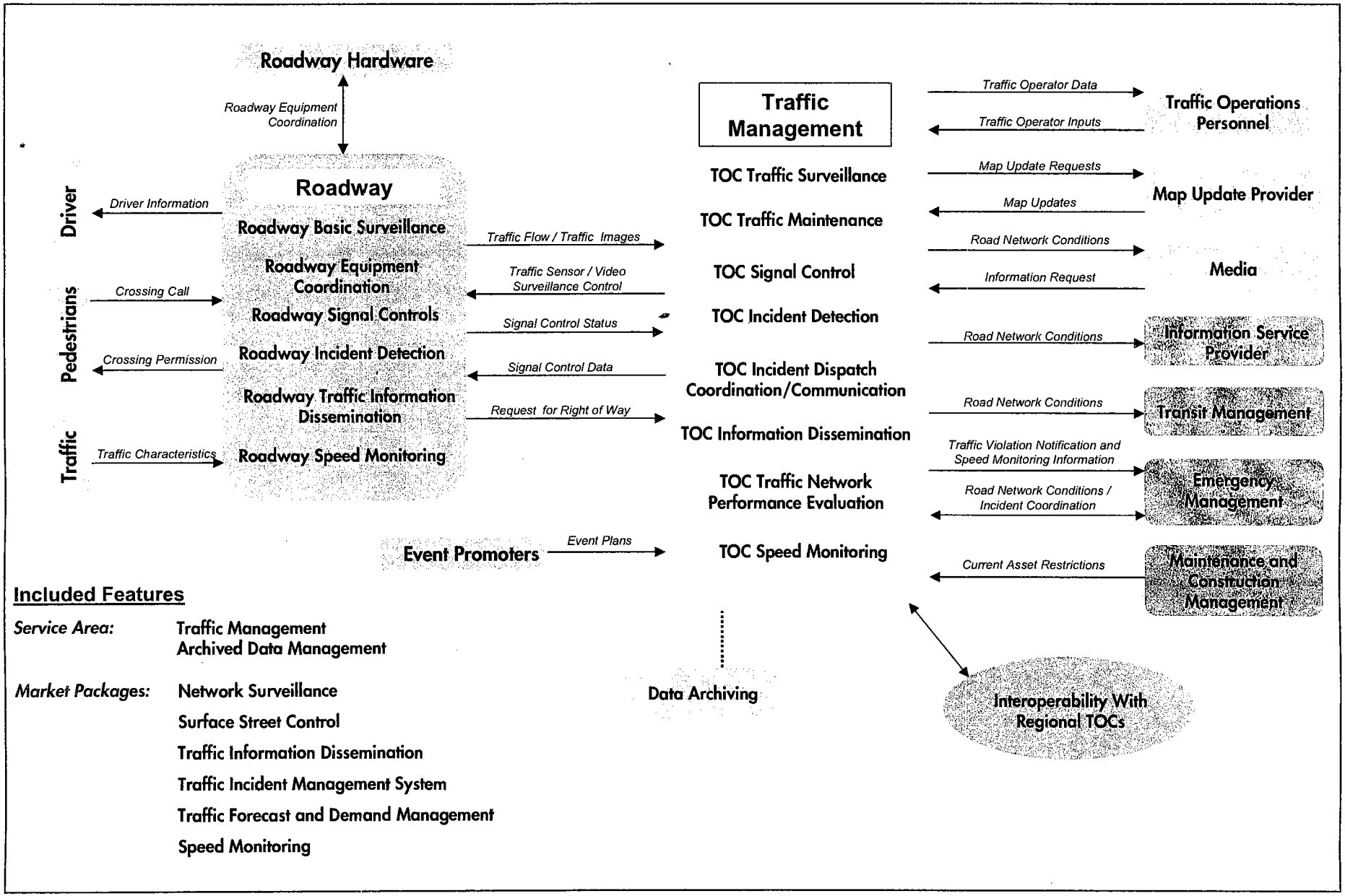


Figure 7-5
Recommended ITS Master Plan

Source: the CK Group, Inc.

July 2006

Table 7-1 Proposed ATMS and Communications Network Master Plan Deployment Cost				
	Quantity	Units	Unit Price	Total Cost
ITS Deployment Strategic Plan				$ 200,000.00
North Ring				
Conduit	21,120	Lin.Ft	$ 30.00	$633,600.00
Fiber Optic Cable (96 SMFO)	30,096	Lin.Ft	$ 4.50	$135,500.00
#9 Pull Box and Splice Enclosure (one at every 1/4 mi)	23	Each	$ 3,000.00	$69,000.00
Fiber Equipment at Signals	14	Each	$ 5,000.00	$70,000.00
CCTV Camera	6	Each	$ 5,000.00	$30,000.00
Video Transmission Equipment	6	Each	$ 3,000.00	$18,000.00
DMS	1	Each	$ 60,000.00	$60,000.00
DMS Structure	1	Each	$ 60,000.00	$60,000.00
Video Detection Device (cost shown is for RTMS)	5	Each	$ 11,000.00	$55,000.00
ITS Design Cost (10 % of Infrastructure and Equipment Costs)				$113,100.00
Sub Total for North Ring				$1,244,100.00
Central Ring				
Conduit	5,808	Lin.Ft	$ 30.00	$174,300.00
Fiber Optic Cable (96 SMFO)	12,144	Lin.Ft	$ 4.50	$54,700.00
#9 Pull Box and Splice Enclosure (one at every 1/4 mi)	9	Each	$ 3,000.00	$27,000.00
Fiber Equipment at Signals	10	Each	$ 5,000.00	$50,000.00
CCTV Camera	5	Each	$ 5,000.00	$25,000.00
Video Transmission Equipment	5	Each	$ 3,000.00	$15,000.00
DMS	6	Each	$ 60,000.00	$360,000.00
DMS Structure	6	Each	$ 60,000.00	$360,000.00
Video Detection Device (cost shown is for RTMS)	6	Each	$ 11,000.00	$66,000.00
ITS Design Cost (10 % of Infrastructure and Equipment Costs)				$113,200.00
Sub Total for Central Ring				$1,245,200.00
South Ring				
Conduit	52,800	Lin.Ft	$ 30.00	$1,584,000.00
Fiber Optic Cable (96 SMFO)	52,800	Lin.Ft	$ 3.50	$237,600.00
#9 Pull Box and Splice Enclosure (one at every 1/4 mi)	40	Each	$ 3,000.00	$120,000.00
Fiber Equipment at Signals	10	Each	$ 5,000.00	$50,000.00
CCTV Camera	2	Each	$ 5,000.00	$10,000.00
Video Transmission Equipment	2	Each	$ 3,000.00	$6,000.00
DMS	4	Each	$ 60,000.00	$240,000.00
DMS Structure	4	Each	$ 60,000.00	$240,000.00
Video Detection Device (cost shown is for RTMS)	2	Each	$ 11,000.00	$22,000.00
ITS Design Cost (10 % of Infrastructure and Equipment Costs)				$250,900.00
Sub Total for South Ring				$2,760,500.00
Total Infrastructure and Equipment Cost for all the Rings				$5,249,800.00
Operation, Maintenance, and Replacement Annual Cost (5% of Infrastructure and Equipment Costs)				$262,500.00
Contingency and Construction Management Costs (20% of Infrastructure and Equipment Costs)				$1,050,000.00
Total Cost				$6,562,300.00
Sources: the CK Group, Inc. Inc, MAG ITS TIP Projects 2011 Document, http://www.benefitcost.its.dot.gov/its/benecost.nsf/ByLink/CostHome				April 2006



Included Features

Service Area: Traffic Management
Archived Data Management

Market Packages: Network Surveillance
Surface Street Control
Traffic Information Dissemination
Traffic Incident Management System
Traffic Forecast and Demand Management
Speed Monitoring

Source: National ITS Architecture Version 5.1, the CK Group, Inc.

Figure 7-4: City of Avondale ITS Architecture – Vision 5.1

BCK-01

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently funding is available only for **FY 2012**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section is used to collect information requested by the MAG ITS Committee. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Thomas Chlebanowski, P.E.**	2.	Telephone: **623-349-6804**
3.	E-mail **tchlebanowski@buckeyeaz.gov**	4.	Date: **Sept 8, 2006**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently funding is available only for **FY 2008, FY 2009, FY 2010 and FY 2012**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name: **Town of Buckeye, Arizona**	2. Year (Please check only one box): ☐ FY 2008 √ FY 2009 ☐ FY 2010 ☐ FY 2012
3. Project Location (The project limits if applicable): **Town of Buckeye-Miller Road (N-S) from I-10 (north limit) to Hazen Road (south limit). Monroe Street (E-W), the Town's Downtown main street from Miller Road (west limit) to Apache Road/Police Department (east limit).**	
4. Type of Work (Description of the work to be performed): **Along Miller Road, approximately 6 miles of a future Principal/Major Arterial will have 12 traffic signals (with ½ mile spacing). This corridor at full build out is slated for 130' ROW and is the Town of Buckeye's major connection route from Interstate 10 to Downtown Buckeye. Miller Road (N-S) also has a major intersection connection with downtown Buckeye Monroe Street, which is the main east-west street connection through downtown Buckeye. Monroe Street, which runs through downtown Buckeye, is considered by MAG to be a road of Regional Significance and forms an east-west critical connection from Miller Road that be an ITS connection that ultimately terminates at a Central Communication site at the Town of Buckeye Police Station.** **Both corridors will need smart/Intelligent Transportation Systems in the form of conduit segments, traffic signal equipment and possible wireless access points for communication uplinks to all of the current or planned traffic signals along them. The need to interconnect the traffic signals is for the purpose of efficient, optimal traffic timing that promotes traffic progression and mitigates congestion. This interconnection will be planned and designed to be integrated with the police department's central communication project that is currently being planned. This critical link from Miller Road to Apache along Monroe will establish continuity between traffic and police communication.**	
5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.): **$210,000.00**	6. Type of Federal Funds Requested (Please check only one box.): ☐ MAG STP √ CMAQ

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.): **$90,000.00**	8. Type of Local Funds to be Used: (Please check only one box.): ☐ HURF ☐ Impact Fees √ General Fund ☐ Bond Proceeds ☐ Sales Tax ☐ Private ☐ Property Tax ☐ Other, Please specify: _____
9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested): **$300,000.00**	

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

   See attached maps for project location and project limits.

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes design, right-of-way acquisition and construction phases, identification of any major structures (e.g. bridges) to be constructed and the relationship of the project to other programmed and planned projects in the TIP, regional plan, local capital improvement programs or local plans.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

4. Explain how the project addresses multi-modal issues. For example, show how the project accommodates the needs of bicyclists and pedestrians by including facilities designed in accordance with: (a) MAG Pedestrian Plan 2000; (b) MAG Pedestrian Area Policies and Design Guidelines; (c) MAG Regional Bicycle Plan; (d) MAG Regional Off-Street System Plan. Describe the pedestrian and/or bicycle facility included in the project and how that facility meets the guidance of the above documents.

5. Explain how this facility meets the needs of older adults. For example, which design elements from FHWA's Highway Design Handbook For Older Drivers and Pedestrians will be incorporated into this project: (a) Larger, better-illuminated signs and higher contrast signage; (b) Advanced distance notification of required tasks (e.g. merge, four-way stops); (c) Consistent overhead placement of lane-use control signs; (d) Increase pedestrian control-signal timing based on an assumed walking speed of .85 meters per second; The use of protected-only operations in turning lanes; Any other older adult considerations.

6. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

7. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **3694**	2. Name of the Roadway Section Used for the ADT Estimate: **Tuthill Road (N-S) at Narramore Road**	3. Type of Facility to be Improved (Check only one box): √ Arterial > 4 legs (e.g. Grand) ☐ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **4-6 Lanes on Miller and 4 lanes on Monroe**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **6 Lanes on Miller and 4 lanes on Monroe**	6. Length of the Facility (in miles): **6 miles on Miller and 1 mile on Monroe Street to Police Dept.**
7. Township Coordinate of the Midpoint of the Facility: **T 1 South**	8 Range Coordinate of the Midpoint of the Facility: **R 3 West**	9. Section Coordinate of the Midpoint of the Facility: **Section 5**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

10. If the project improves traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **Miller (15 mph-50 mph) on Monroe (15-40 mph)....depending on peak times.**

NOTE that 15 mph speed is for two localized school speed zones along the corridors. Additionally, these ITS corridors will improve progression and reduce delay.

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

	Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
√	Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐	Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐	Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐	Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐	Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐	Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

11. Other Project Information: (Check as many as are applicable):

√ Includes Traffic Signal Improvements for a Single Agency
√ Includes Traffic Signal Improvements that Apply to More than One Agency
☐ Includes FMS Improvements
√ The Project Conforms to Local Land Use Plans
√ The facility is on the adopted MAG Roads of Regional Significance Network
√ Adds Traffic Signals that increase pedestrian crossing time for seniors

12 Management System (Please check only <u>one</u> box)

√ Congestion Management System (CMS)
☐ Bridge Management System (BMS)
☐ Pavement Management System (PMS)
☐ Public Transportation Management System (PTMS)
☐ Safety Management System (SMS)
☐ Intermodal Management System (IMS)
☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

Because Miller Road is the one of the Town's two major (north-south) connections from the Interstate, as well as Monroe being the major corridor through downtown Buckeye this corridor, this project is considered at a number ONE PRIORITY.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Committee Rating System

The Rating System Subcommittee of the MAG ITS Committee is responsible for developing and refining the MAG ITS Project Rating System. The initial effort on developing a project rating system was launched in 1998 and was used to compare projects in 1998 and 1999. It was by no means a perfect system, but provided a systematic and an objective method to compare projects, taking into account key factors considered important by the committee. The subcommittee further revised this system in June 2000 and in August 2001. The current system was adopted by the MAG ITS Committee on September 6, 2001.

The primary purpose of the ITS Project Rating System is to help the MAG ITS Committee prioritize ITS projects submitted by member agencies for inclusion in the annual update of the Transportation Improvement Program (TIP). Only projects that qualify as ITS projects are rated using this system. How projects are deemed qualified as ITS projects eligible for federal funds, is based on the National ITS Architecture developed by the USDOT. A regional architecture that is compatible with the National ITS Architecture is a requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems. Market Package definitions contained within National ITS Architecture documents are used as the sole criteria to determine whether a candidate project submitted by a MAG member agency for inclusion in the TIP qualifies as an ITS project. Projects that may not meet federal requirements to qualify as an ITS project may qualify for federal funding as a street improvement project.

A number of factors are considered in the ITS Project Rating System. They ensure that projects that foster regional integration, consistency with regional architecture, cost-benefit ratio, and equity are given due credit in the project prioritization process. The rating system accomplishes the following:

- Provides the ability to rate projects submitted by all member agencies on an objective basis
- Encourages integrated rather than fragmented systems
- Encourages regional cooperation
- Encourages projects that extend seamlessly across boundaries
- Encourages projects that are likely to yield higher cost-benefits ratio
- Encourages higher matching funds by cities - stretches the federal funds for more projects

Website for ITS data entry

To provide information for the ITS project rating System and obtain the needed reports and other information on ITS see the MAG website at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Contact Information

Please contact Sarath Joshua at (602) 254-6300 or sjoshua@mag.maricopa.gov for additional information or questions.

SECTION-2

Question #1

SEE ATTACHED AREA MAPS FOR TOWN OF BUCKEYE PROJECT LOCATION AND LIMITS

ANSWERS TO QUESTIONS #2 thru #6

Question #2

Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes design, right-of-way acquisition and construction phases, identification of any major structures (e.g. bridges) to be constructed and the relationship of the project to other programmed and planned projects in the TIP, regional plan, local capital improvement programs or local plans.

Miller Road, approximately 6 miles of a future Principal/Major Arterial, will have 12 traffic signals (with ½ mile spacing). This corridor at full build out is slated as the Town's major connection route from Interstate 10 to Downtown Buckeye. Miller Road (N-S) also has a major intersection connection with downtown Buckeye Monroe Street, which is the main east-west street connection through downtown Buckeye. Monroe Ave forms an east-west critical connection from Miller Road and is an ITS backbone connection, ultimately terminating at a future communication hub at the Police Station.

The need for ITS in the form of conduit segments, traffic signal equipment and possible wireless access points for connection across irrigation canals and to uplink to ensure continuity of the corridor. The need to interconnect the traffic signals provides efficient, optimal traffic timing that promotes traffic progression and mitigates congestion and also promotes pedestrian interface with the transportation system.

Question #3

Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

The Miller and Monroe ITS Project should receive MAG federal funding because of the cross cutting population group that the project will eventually serve. The goal of the project is to promote pedestrian, vehicular, event, incident and safety Transportation System management while mitigating traffic congestion and ease of connectivity to future pedestrian/bicycle corridors, multimodal facilities (ie, future park and ride, bus and rail facilities). These future facilities will not be utilized if efficient access to multimodal facilities. The smart interconnection between the vehicular, pedestrian and para-transit facilities improve air quality through less congestion, improve safety by removing the pedestrian from the roadway corridor.

Additional to safety, the project will ideally promote a quality of life in the form of health and socio economic benefits to the pedestrian by promoting mobility to the ADA impaired, the elderly and children attending school throughout the corridor area.

Question #4

Explain how the project addresses multi-modal issues. For example, show how the project accommodates the needs of bicyclists and pedestrians by including facilities designed in accordance with: (a) MAG Pedestrian Plan 2000; (b) MAG Pedestrian Area Policies and Design Guidelines; (c) MAG Regional Bicycle Plan; (d) MAG Regional Off-Street System Plan. Describe the pedestrian and/or bicycle facility included in the project and how that facility meets the guidance of the above documents.

The goal of the project is to promote pedestrian, bicycle, vehicular, event, incident and safety Transportation System management while mitigating traffic congestion and adding to the ease of connectivity to future multimodal facilities such as pedestrian/bicycle corridors or future park and ride, bus and commuter rail facilities. These future facilities will not be utilized if efficient access to multimodal facilities is planned for and implemented. The smart interconnection between the vehicular, pedestrian and para-transit facilities through the use of improve air quality through less congestion on roadways, improved safety by removing the pedestrian from the roadway corridor, less congestion by enabling passengers to cycle and bus to destinations by the use of connectivity to multimodal transportation facilities.

Question #5

Explain how this facility meets the needs of older adults. For example, which design elements from FHWA's Highway Design Handbook For Older Drivers and Pedestrians will be incorporated into this project: (a) Larger, better-illuminated signs and higher contrast signage; (b) Advanced distance notification of required tasks (e.g. merge, four-way stops); (c) Consistent overhead placement of lane-use control signs; (d) Increase pedestrian control-signal timing based on an assumed walking speed of .85 meters per second; The use of protected-only operations in turning lanes; Any other older adult considerations.

Remembering that the elderly, may need more time for reaction to surroundings. The pedestrian control of the corridor will address signal timing to accommodate the pedestrian corridor usage by the elderly. Additionally, when elderly are in vehicular modes of travel, the corridors will address the advanced warning and placement of signage that has higher visibility through illumination and contrast in compliance w/ADA and FHWA Design Handbook for Older Drivers and Pedestrians.

Question #6

Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

The following is an estimated itemized cost breakdown for the project.

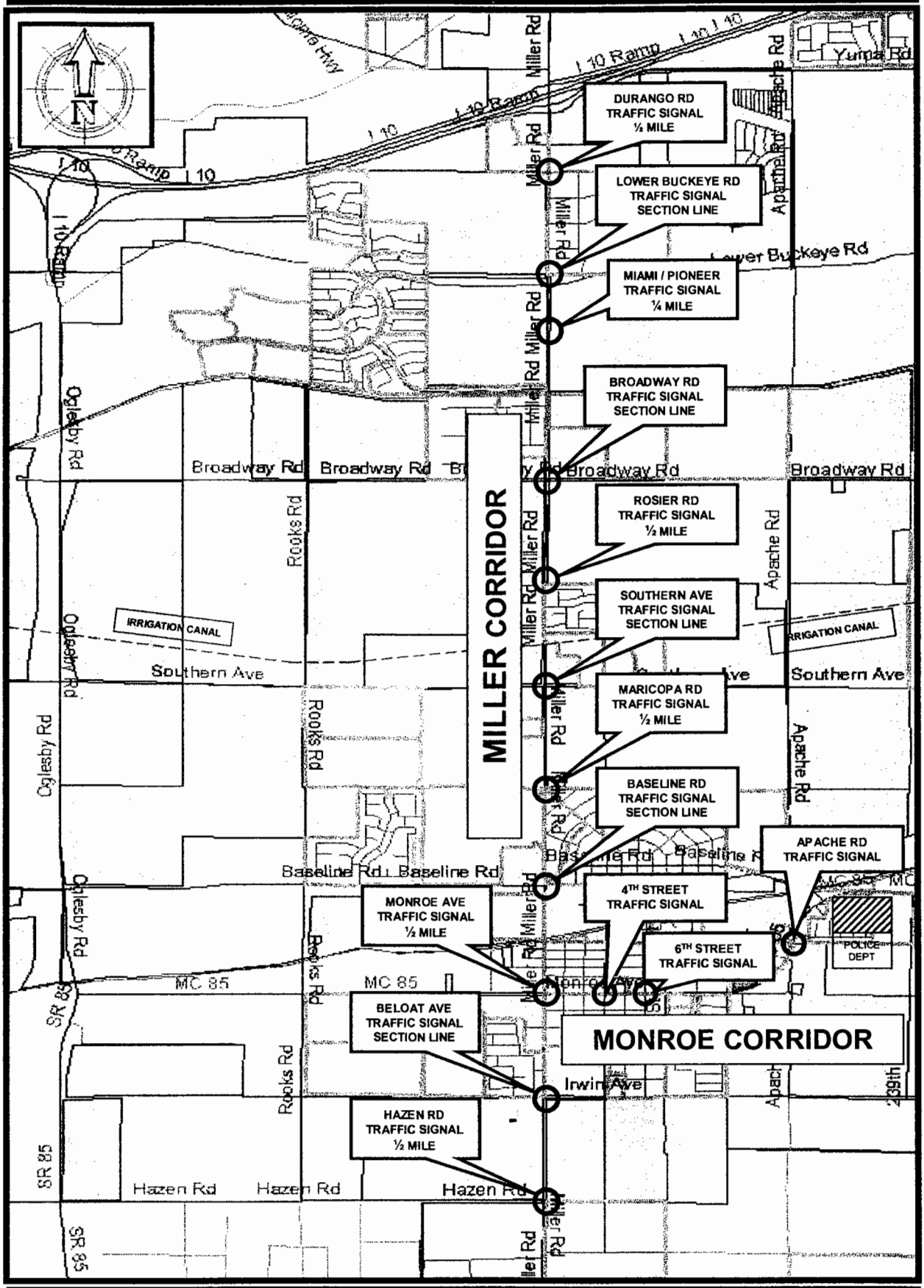
Design and Environmental	$ 90,000.00
Equipment, Conduit	$170,000.00
Construction Admin	$ 25,000.00
Contingency	$ 15,000.00
TOTAL	$300,000.00

Question #7

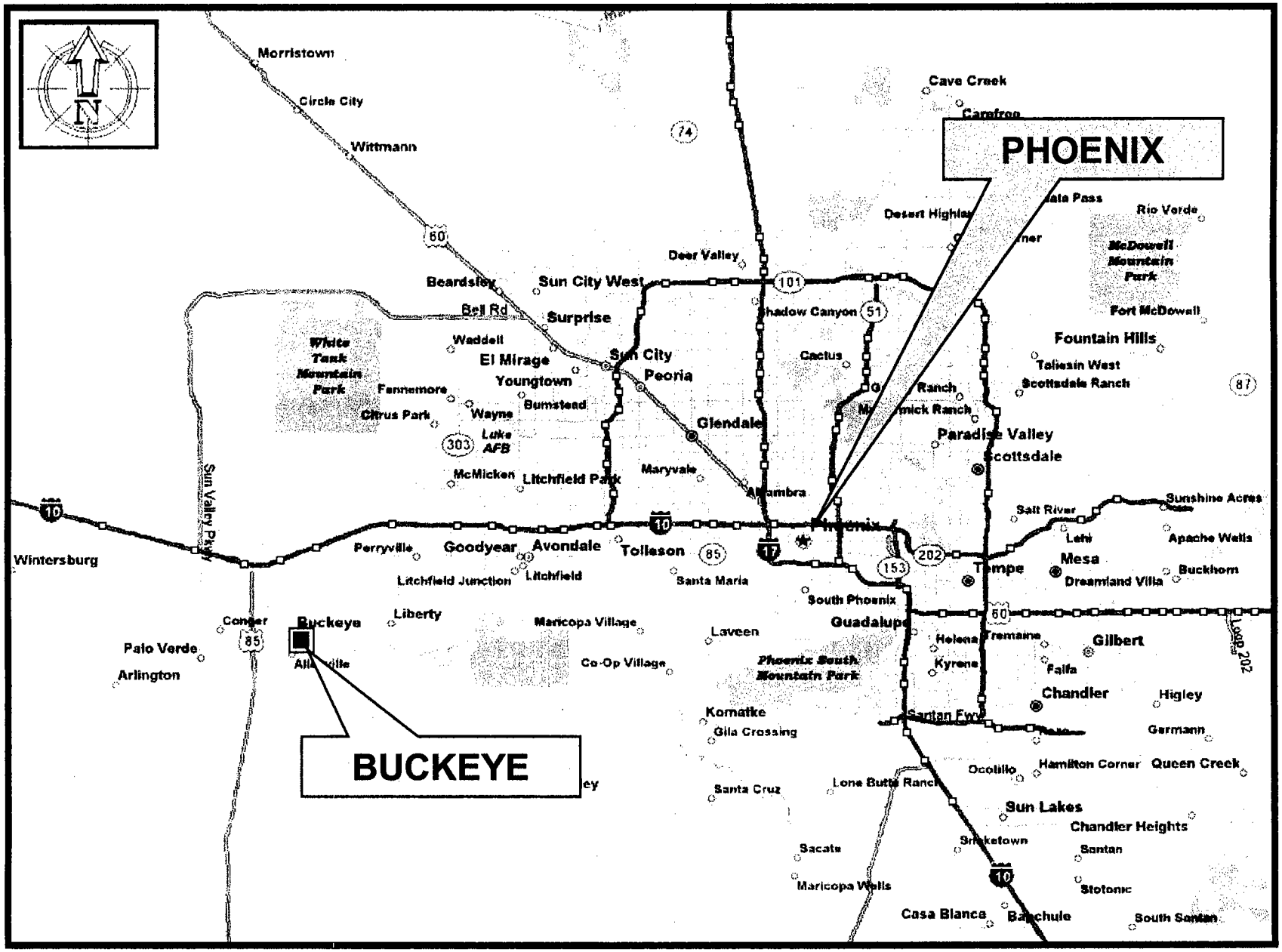
Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

Depending on the funding availability and provisioning, the project will be phased to accommodate the full planning and design of the corridors. In particular, the Monroe Ave Project could be Phase I of the project implementation plan. If needed and depending on whether funding allows, the staging of project phasing can be adjusted to optimize resources. The schedule for obligating this project is expected to follow 18 months for design, any environmental clearance that may be required as well as any utility clearances that may be necessary. Included will be the 3 to 6 month time to obligate it for TIP programming. Therefore, FY 2009 is the anticipated obligation time for construction and implementation of the first phase of the project.

PROPOSED ITS PROJECT CORRIDORS



TOWN OF BUCKEYE MILLER RD AND MONROE AVE ITS CORRIDOR PROJECT



GENERAL LOCATION MAP

CHN-01

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – $2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Mike Mah, City Transportation Engineer**	2.	Telephone: **(480) 782-3470**
3.	E-mail **mike.mah@chandleraz.gov**	4.	Date: **8/28/06**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   City of Chandler

2. Year (Please check only one box):

   ☒ FY 2008 ☐ FY 2009 ☐ FY 2010 ☐ FY 2012

3. Project Location (The project limits if applicable):

   Chandler Boulevard (Delaware St to Gilbert Road)

4. Type of Work (Description of the work to be performed):

   Install fiber optic cable traffic signal interconnect

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $315,000

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   $135,000

8. Type of Local Funds to be Used: (Please check only one box.):

   ☐ HURF ☐ Impact Fees

   ☐ General Fund ☒ Bond Proceeds

   ☐ Sales Tax ☐ Private

   ☐ Property Tax ☐ Other, Please specify:

   _ _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

   $450,000

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

   See Exhibit 1 attached.

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.

   The City of Chandler proposes to install approximately 2.8 miles of fiber optic cables for a traffic signal interconnect along Chandler Boulevard between Delaware Street and Gilbert Road. This project will extend the fiber optic "backbone" on Chandler Boulevard. This project will provide for the capability of connecting the Traffic Management Centers (TMCs) between the City of Chandler, Town of Gilbert, and the City of Mesa.

   This project includes environmental determination, design, and construction. Underground work is required for the installation of conduit in some areas. Right-of-way acquisition is not required.

   This project will extend fiber optic interconnects installed by previous City and Federally funded projects. This project is part of the Regional Community Network's (RCN) East Valley Ring that connects the TMCs and create multiple communication routes between the City of Chandler, Town of Gilbert, and the City of Mesa.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

The AZTech Executive Committee has a goal to archive traffic data for regional distribution. Providing fiber along Chandler Boulevard is a necessary step to achieving this goal for Chandler and for the region as a whole.

Communications interconnect is an identified project in the MAG Regional Concept of Transportation Operations (RCTO) for inclusion in the MAG TIP. The Chandler Boulevard fiber optic interconnect will provide opportunities for regional transportation engineering collaboration, transit signal priority, archived data, and public safety/incident management, all of which are goals identified in the RCTO.

Air quality will be improved through reduced traffic congestion as a result of the higher quality data used to optimize traffic signal timings, efficiently conduct incident management, and access remote traffic signal installations.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

See attached Table 1

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

Underground work is an important aspect of this project. Therefore, environmental determination, right-of-way and utility clearances, as well as design will be required. The following schedule of dates are anticipated for this project:

Design Concept	**January 2008**
Environmental	**July 2008**
Design	**March 2009**
Bid	**April 2009**
Construction	**August 2009**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **24,800**	2. Name of the Roadway Section Used for the ADT Estimate: **Chandler Blvd (Cooper to Gilbert)**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☒ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **4 to 6**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **4 to 6**	6. Length of the Facility (in miles): **2.8 miles**
7. Township Coordinate of the Midpoint of the Facility: **1S**	8 Range Coordinate of the Midpoint of the Facility: **5E**	9. Section Coordinate of the Midpoint of the Facility: **25**

10. If the project is expected to improve traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor:

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☒ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☐ Includes Traffic Signal Improvements for a Single Agency
- ☒ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☒ The Project Conforms to Local Land Use Plans
- ☒ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only one box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
- ☐ Pavement Management System (PMS)
- ☐ Public Transportation Management System (PTMS)
- ☐ Safety Management System (SMS)
- ☐ Intermodal Management System (IMS)
- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

1

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website**.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website)
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects)
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr)
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming)
- Applicable ITS User Services, Market Packages from National ITS Architecture
- Required communications for data sharing with other agencies (if any)
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies)

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.

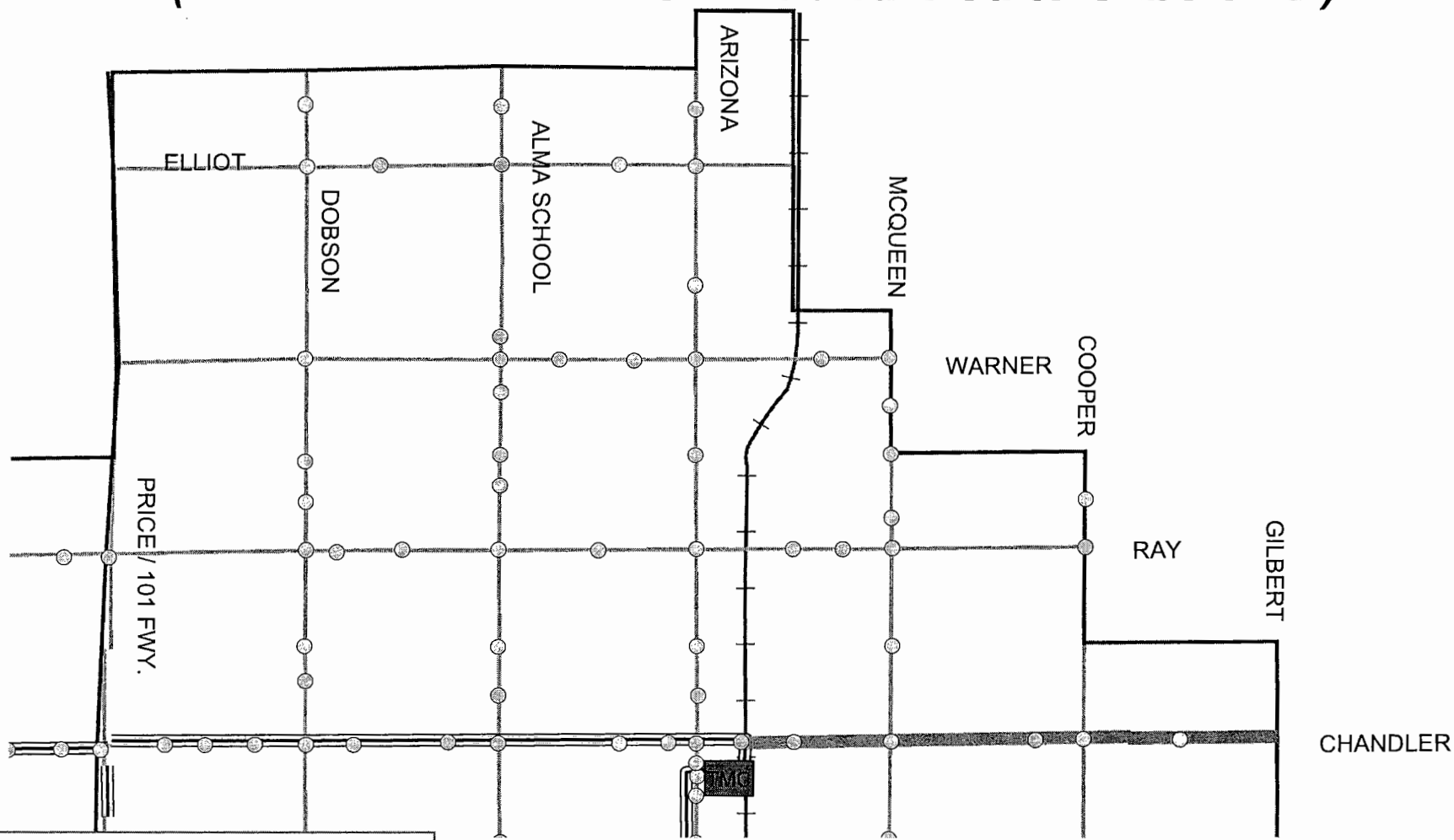
Chandler Boulevard Fiber Interconnect

Delaware Street to Gilbert Road

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
Conduit	1,600	lin ft.	$ 55.00	$ 88,000
#7 Pullbox with Extension	15	each	$ 700.00	$ 10,500
#9 Pullbox & Splice Enclosure	6	each	$ 4,500.00	$ 27,000
SMF Cable	15,000	lin ft.	$ 7.00	$ 105,000
Fiber Equipment @ Signals	5	each	$ 5,500.00	$ 27,500
Traffic Control	1	lump sum	$ 20,000.00	$ 20,000
Subtotal				$ 278,000
Inflation (6yrs @ 3.7%/yr)				$ 67,800
Subtotal				$ 345,800
Design and EA 10%				$ 34,500
Contingency 10%				$ 34,500
Construction Management 10%				$ 34,500
TOTAL				$ 449,300

TABLE 1

City of Chandler
Fiber Optic Cable Installation
(On Chandler Blvd. From Delaware St. to Gilbert Rd.)



Legend

- Chandler Traffic Signals
- Existing Fiber
- Proposed Fiber

EXHIBIT 1

GLN-01

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – $2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M.**

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Debbie Burdette**	2.	Telephone: **623-847-7524**
3.	E-mail **dburdette@glendaleaz.com**	4.	Date: **8/30/06**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name: **City of Glendale**	2. Year (Please check only one box): ☒ FY 2008 ☐ FY 2009 ☐ FY 2010 ☐ FY 2012
3. Project Location (The project limits if applicable): **City of Glendale – various locations**	
4. Type of Work (Description of the work to be performed): **CCTV camera installation**	
5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.): **$224,592**	6. Type of Federal Funds Requested (Please check only one box.): ☐ MAG STP ☒ CMAQ
7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.): **$96,254**	8. Type of Local Funds to be Used: (Please check only one box.): ☐ HURF ☐ Impact Fees ☐ General Fund ☐ Bond Proceeds ☒ Sales Tax ☐ Private ☐ Property Tax ☐ Other, Please specify: _____
9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested): **$320,485**	

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **37,800**	2. Name of the Roadway Section Used for the ADT Estimate: **67th Avenue**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☒ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **5**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **5**	6. Length of the Facility (in miles): **3**
7. Township Coordinate of the Midpoint of the Facility: **2N**	8 Range Coordinate of the Midpoint of the Facility: **2E**	9. Section Coordinate of the Midpoint of the Facility: **5**

10. If the project is expected to improve traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor:

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☒ Includes Traffic Signal Improvements for a Single Agency
- ☐ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ The Project Conforms to Local Land Use Plans
- ☒ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only one box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
- ☐ Pavement Management System (PMS)
- ☐ Public Transportation Management System (PTMS)
- ☐ Safety Management System (SMS)
- ☐ Intermodal Management System (IMS)
- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

1

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website**.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website)
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects)
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr)
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming)
- Applicable ITS User Services, Market Packages from National ITS Architecture
- Required communications for data sharing with other agencies (if any)
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies)

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

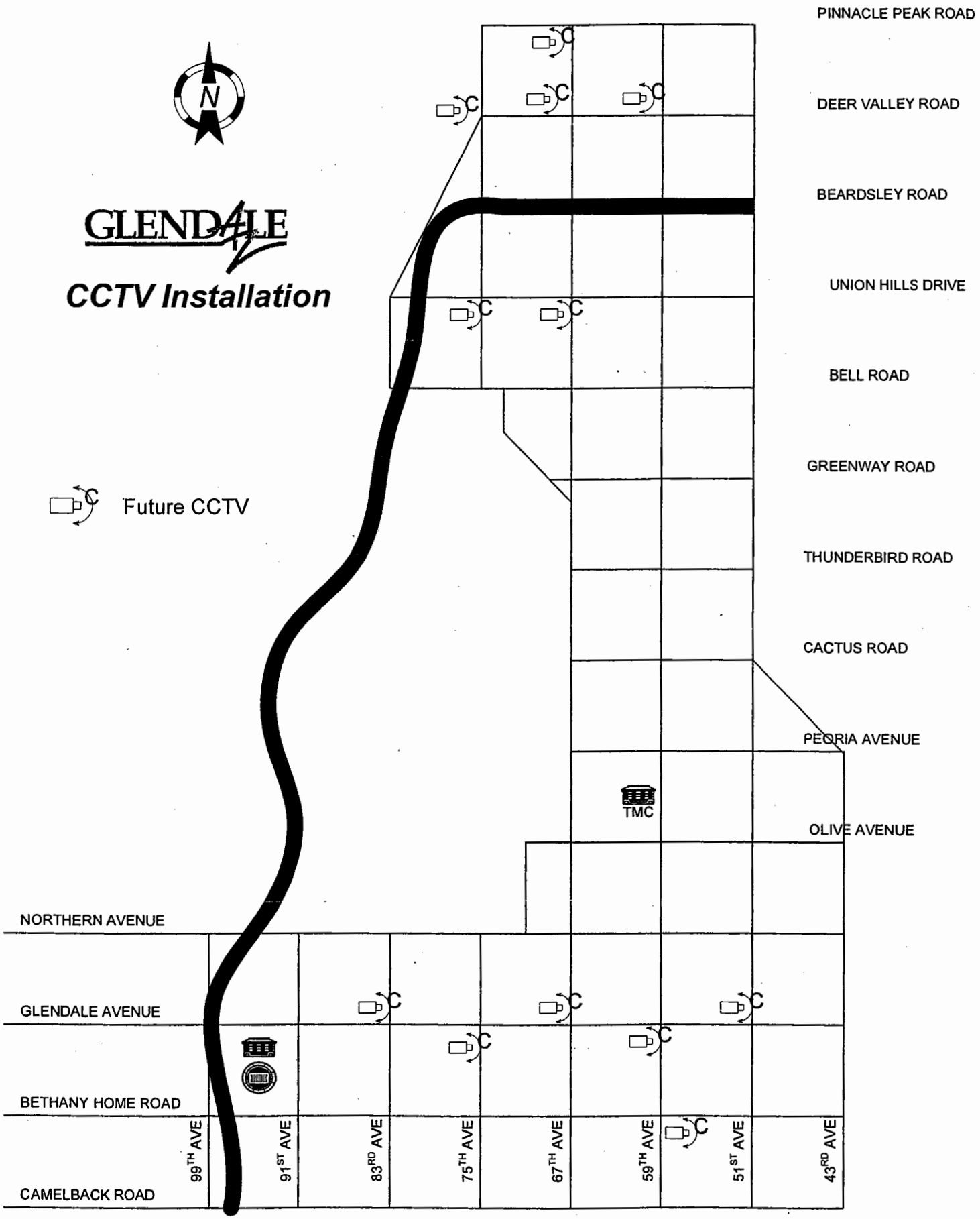
Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.

1. Project Location Map



2. Project Description.

This project includes purchase and installation of 12 pan, tilt, zoom closed circuit television (CCTV) cameras on existing traffic signal poles at key arterial-arterial intersections in the northern and central part of Glendale. Additionally, video transceivers and splicing to incorporate these cameras into the city's traffic management system to actively monitor and manage traffic are part of this project. This project will fill in gaps in the management system where the city currently has installed fiber optic cable to control traffic signals, but does not have a means to monitor the real-time traffic conditions, thus limiting the capabilities of the system. These cameras will also be incorporated into the AZTech network, expanding the arterial street and destination point coverage, following the Glendale connection expected in mid 2007.

3. Why this project should receive MAG Federal Funding.

The northwest valley has seen tremendous growth in residential population as well as destination attractions. The City of Glendale, in some areas, is a pass through point to gain access from residential areas to major transportation corridors such as Loop 101 and I-17. Two goals for arterial ITS are to better utilize the roadway system by employing effective management techniques and to manage traffic flows affected by incidents, special events, and other abnormal conditions. Installation of traffic monitoring equipment will allow the City of Glendale to accomplish these goals. Further, Glendale Avenue is the gateway to the Glendale Arena and Cardinals Stadium. Having the capability to manage event traffic through active traffic monitoring is imperative to the success of large events at these venues including the Fiesta Bowl, BCS Bowl, and the Super Bowl. Everyday commuters will also realize benefits through improved traffic management and traveler information capabilities.

4. Project Estimate.

Item	Unit	Quantity	Unit Price	Amount
Conductors	EA DEVICE	12	$3,500.00	$42,000
Fiber Optic Transceivers (Video Rack Mount)	EA	12	$2,500.00	$30,000
Fiber Optic Transceivers (Video Shelf Mount)	EA	11	$2,500.00	$27,500
CCTV Field Equipment	EA	12	$8,000.00	$96,000
Miscellaneous Work (Furnish, Install, and Test Communications)	L. SUM	1	$5,000.00	$5,000
			Subtotal	**$200,500**
Miscellaneous Work (15%)				$30,075
			Subtotal	**$230,575**
Maintenance/Protection of Traffic (10%)				$23,058
			Subtotal	**$253,633**
Mobilization (10%)				$25,363
			Subtotal Construction Cost	**$278,996**
Construction Engineering (15%)				$41,849
			Total Project Construction Cost	**$320,845**
	Right-of-way Cost			$0
	Utilities Cost			$0
			Total Project Cost	$320,845

5. Project Schedule.

Project Design	January 2007-July 2007
Right-of-Way Clearance	February 2007- July 2007
Utility Clearance	February 2007- July 2007
Environmental Clearance	February 2007- July 2007
Construction	September 2007- January 2008

GLN-0

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – $2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M.**

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Debbie Burdette**	2.	Telephone: **623-847-7524**
3.	E-mail **dburdette@glendaleaz.com**	4.	Date: **8/30/06**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   City of Glendale

2. Year (Please check only one box):

   ☐ FY 2008 ☐ FY 2009 ☐ FY 2010 ☒ FY 2012

3. Project Location (The project limits if applicable):

   City of Glendale – various locations

4. Type of Work (Description of the work to be performed):

   ITS Deployment

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $774,594

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   $331,969

8. Type of Local Funds to be Used: (Please check only one box.):

   ☐ HURF ☐ Impact Fees

   ☐ General Fund ☐ Bond Proceeds

   ☒ Sales Tax ☐ Private

   ☐ Property Tax ☐ Other, Please specify: _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

   $1,106,562

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **46,600**	2. Name of the Roadway Section Used for the ADT Estimate: **Thunderbird Road**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☒ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **5**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **5**	6. Length of the Facility (in miles): **2**
7. Township Coordinate of the Midpoint of the Facility: **3N**	8 Range Coordinate of the Midpoint of the Facility: **2E**	9. Section Coordinate of the Midpoint of the Facility: **8**

10. If the project is expected to improve traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **30**

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☒ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

☒ Includes Traffic Signal Improvements for a Single Agency
☐ Includes Traffic Signal Improvements that Apply to More than One Agency
☐ The Project Conforms to Local Land Use Plans
☒ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only one box)

☒ Congestion Management System (CMS)
☐ Bridge Management System (BMS)
☐ Pavement Management System (PMS)
☐ Public Transportation Management System (PTMS)
☐ Safety Management System (SMS)
☐ Intermodal Management System (IMS)
☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

2

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website**.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website)
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects)
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr)
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming)
- Applicable ITS User Services, Market Packages from National ITS Architecture
- Required communications for data sharing with other agencies (if any)
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies)

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

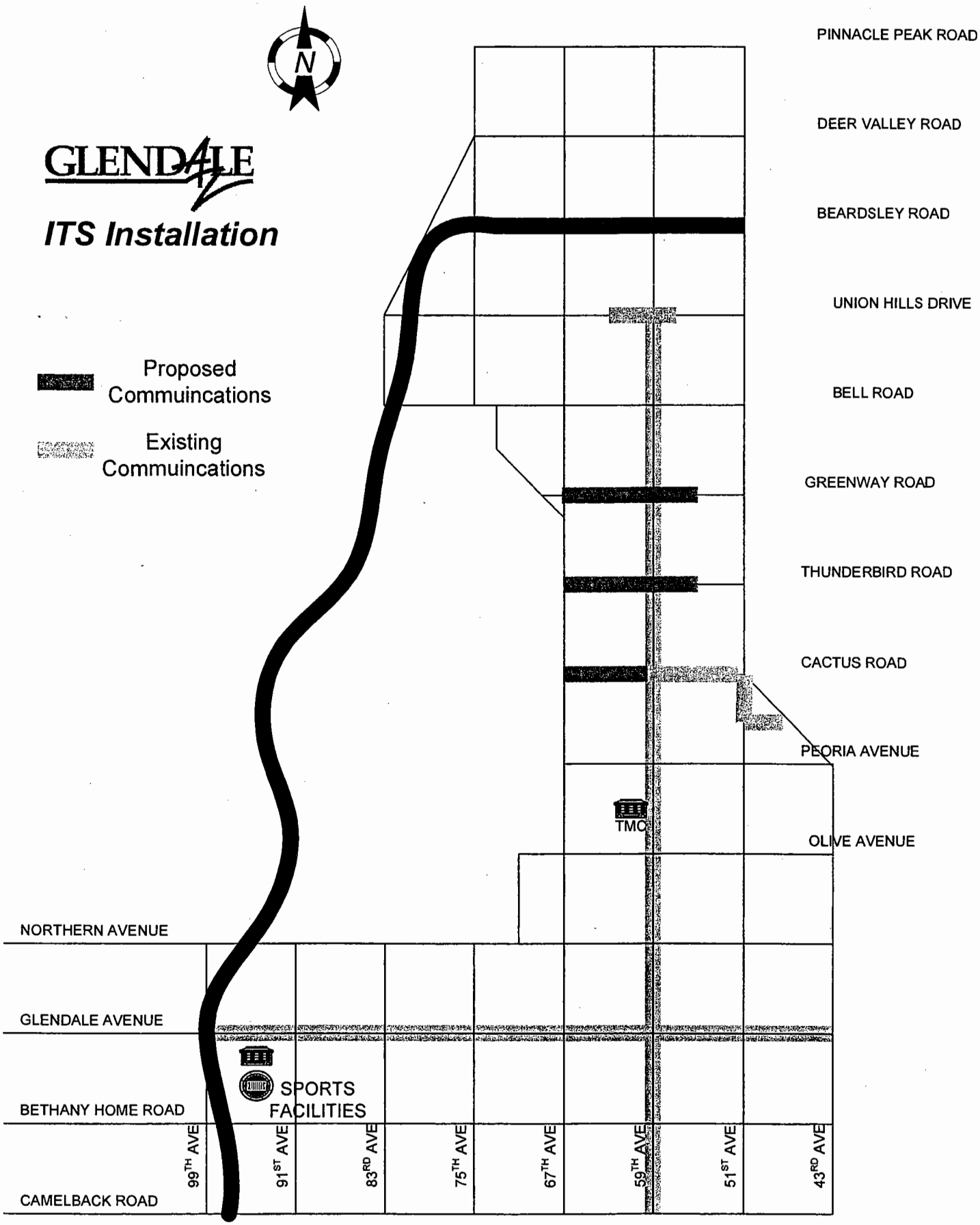
Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.

1. Project Location Map



2. Project Description.

This project includes installation of full ITS on Cactus Road, Thunderbird Road, and Greenway Road between 55th Avenue and 67th Avenue in the City of Glendale. Specifically, four miles of fiber optic cable and conduit will be installed to communicate with ten currently non-interconnected signalized intersections. Additionally, three closed circuit television (CCTV) cameras with video transceivers will be installed at three arterial-arterial intersections to allow for remote monitoring of traffic flows. Adding these corridors to the city's centralized signal network will greatly improve the city's ability to manage commuter traffic traveling through the city to and from work by having a view of traffic conditions and control of traffic signal on adjacent arterials.

3. Why this project should receive MAG Federal Funding.

Currently Thunderbird Road serves as a key east-west corridor to serve communities in the west valley and had the second highest traffic demand behind Bell Road, while Greenway Road acts as a reliever for the Bell Road corridor. Peak traffic flows extend well beyond the peak hour, with especially heavy demands at the intersections of 59th and 67th avenues with Thunderbird and Cactus roads. Two goals for arterial ITS are to better utilize the roadway system by employing effective management techniques and to manage traffic flows affected by incidents, special events, and other abnormal conditions. Installation of ITS equipment will allow the city to meet these goals. Everyday commuters will realize benefits through quicker staff response times and reduced delays as a result of improved traffic management and traveler information capabilities.

4. Project Estimate.

Item	Unit	Quantity	Unit Price	Amount
Conduit	L.FT	22000	$20.00	$440,000
Fiber Optic Cable (72 SMFO)	L.FT	24200	$3.50	$84,700
Fiber Optic Cable (12 SMFO)	L.FT	1500	$2.00	$3,000
Misc. Electrical (Furnish, Install, and Test Fiber Optic Splice/Drop Closure)	EA	15	$1,000.00	$15,000
Fiber Modem (data)	EA	12	$2,500.00	$30,000
Conductors	EA DEVICE	3	$3,500.00	$10,500
Fiber Optic Transceivers (Video Rack Mount)	EA	3	$2,500.00	$7,500
Fiber Optic Transceivers (Video Shelf Mount)	EA	3	$2,500.00	$7,500
CCTV Field Equipment	EA	3	$8,000.00	$24,000
Miscellaneous Work (Furnish, Install, and Test Communications)	L. SUM	1	$5,000.00	$5,000
Communications Vault	EA	25	$1,250.00	$31,250
			Subtotal	**$658,450**
Miscellaneous Work (15%)				$98,768
			Subtotal	**$757,218**
Construction Survey (2%)				$15,144
Quality Control (1%)				$7,572
Dust Palliative (2%)				$15,144
Maintenance/Protection of Traffic (10%)				$75,722
			Subtotal	**$870,800**
Mobilization (10%)				$87,080
			Subtotal Construction Cost	**$957,880**
Construction Engineering (15%)				$143,682
			Total Project Construction Cost	**$1,101,562**
	Right-of-way Cost			$0
	Utilities Cost			$5,000
			Total Project Cost	$1,106,562

5. Project Schedule.

Project Design	February 2011 -July 2012
Right-of-Way Clearance	March 2011 - October 2011
Utility Clearance	March 2011 - October 2011
Environmental Clearance	March 2011 - February 2012
Construction	September 2012 - April 2013

GDY-01

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – S2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M.**

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **City of Goodyear, Don French**	2.	Telephone: **(623) 882-7639**
3.	E-mail **dfrench@goodyearaz.gov**	4.	Date: **8/12/06**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   City of Goodyear

2. Year (Please check only one box):

   ☐ FY 2008 ☐ FY 2009 ☐ FY 2010 ☒ FY 2012

3. Project Location (The project limits if applicable):

   McDowell Road, From Sarival Rd to Litchfield Rd (3.0 Miles)

4. Type of Work (Description of the work to be performed):

   Design and construction of fiber optic interconnect for traffic signals and video.

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $591,045

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   $253,305

8. Type of Local Funds to be Used: (Please check only one box.):

   ☐ HURF ☐ Impact Fees

   ☒ General Fund ☐ Bond Proceeds

   ☐ Sales Tax ☐ Private

   ☐ Property Tax ☐ Other, Please specify: _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

   $844,350

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

   See attached Exhibits A & B.

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.

   See attached, Exhibit C

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

   See attached, Exhibit D

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

   See attached, Exhibit E

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

   The City of Goodyear plans to initiate design within a year, allowing the project to be a candidate for advancement to an earlier year than the proposed 2012 FY, if end of year funds become available and we are successful in obtaining advancement.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **35,000 VPD**	2. Name of the Roadway Section Used for the ADT Estimate: **Litchfield Rd**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☒ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **4 Lanes (1 Mile), 2 Lanes (2 Miles)**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **6 Lanes (3 Miles)**	6. Length of the Facility (in miles): **3 Mile Project Corridor (20+ Overall)**
7. Township Coordinate of the Midpoint of the Facility: **T1N**	8 Range Coordinate of the Midpoint of the Facility: **R1W**	9. Section Coordinate of the Midpoint of the Facility: **SECTION 5**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

10. If the project is expected to improve traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **40 mph**

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

	Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☒	Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐	Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐	Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐	Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐	Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐	Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

11. Other Project Information: (Check as many as are applicable):

☒ Includes Traffic Signal Improvements for a Single Agency
☒ Includes Traffic Signal Improvements that Apply to More than One Agency
☒ The Project Conforms to Local Land Use Plans
☐ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only <u>one</u> box)

☒ Congestion Management System (CMS)
☐ Bridge Management System (BMS)
☐ Pavement Management System (PMS)
☐ Public Transportation Management System (PTMS)
☐ Safety Management System (SMS)
☐ Intermodal Management System (IMS)
☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

1

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website**.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website)
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects)
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr)
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming)
- Applicable ITS User Services, Market Packages from National ITS Architecture
- Required communications for data sharing with other agencies (if any)
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies)

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

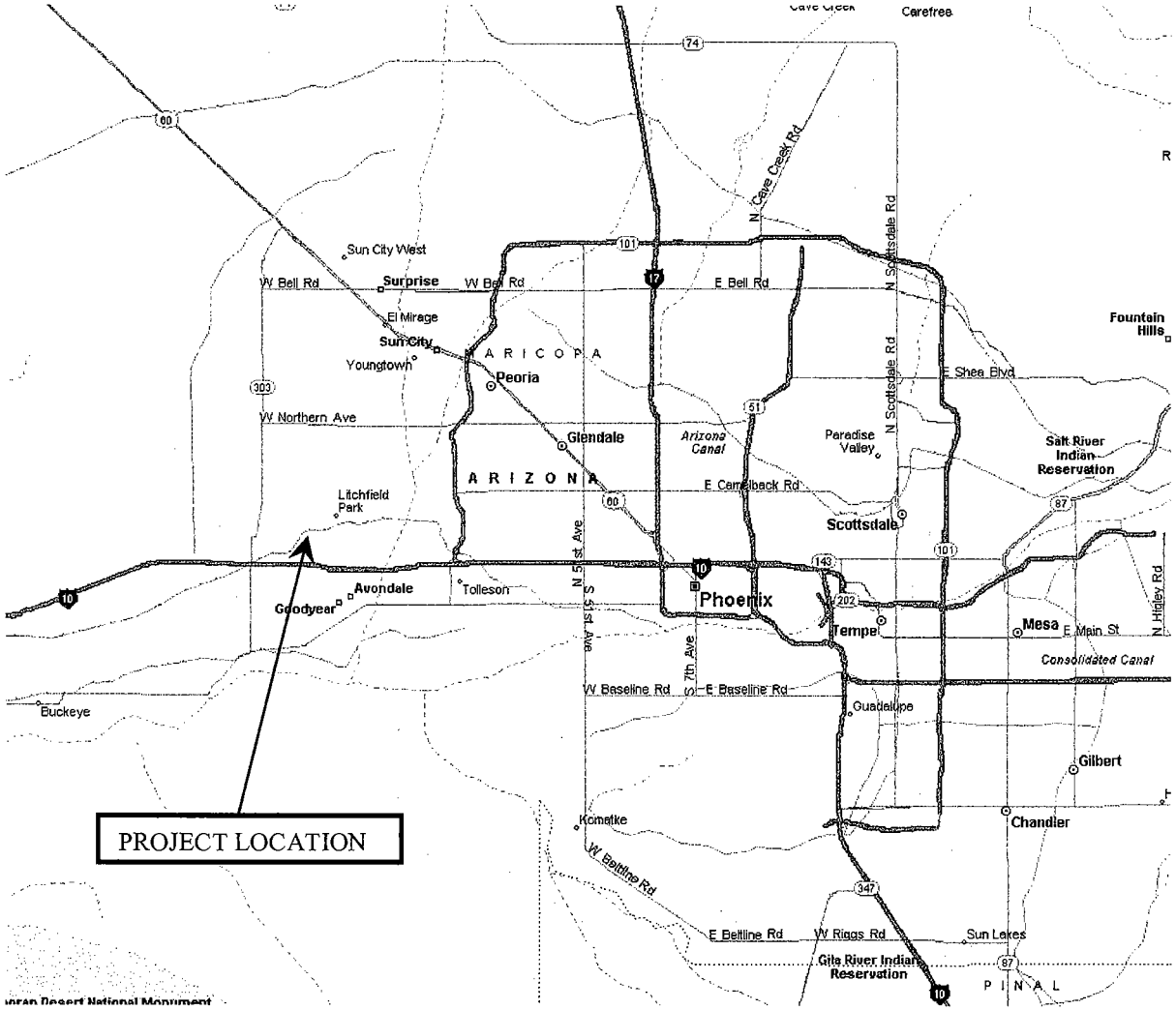
Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

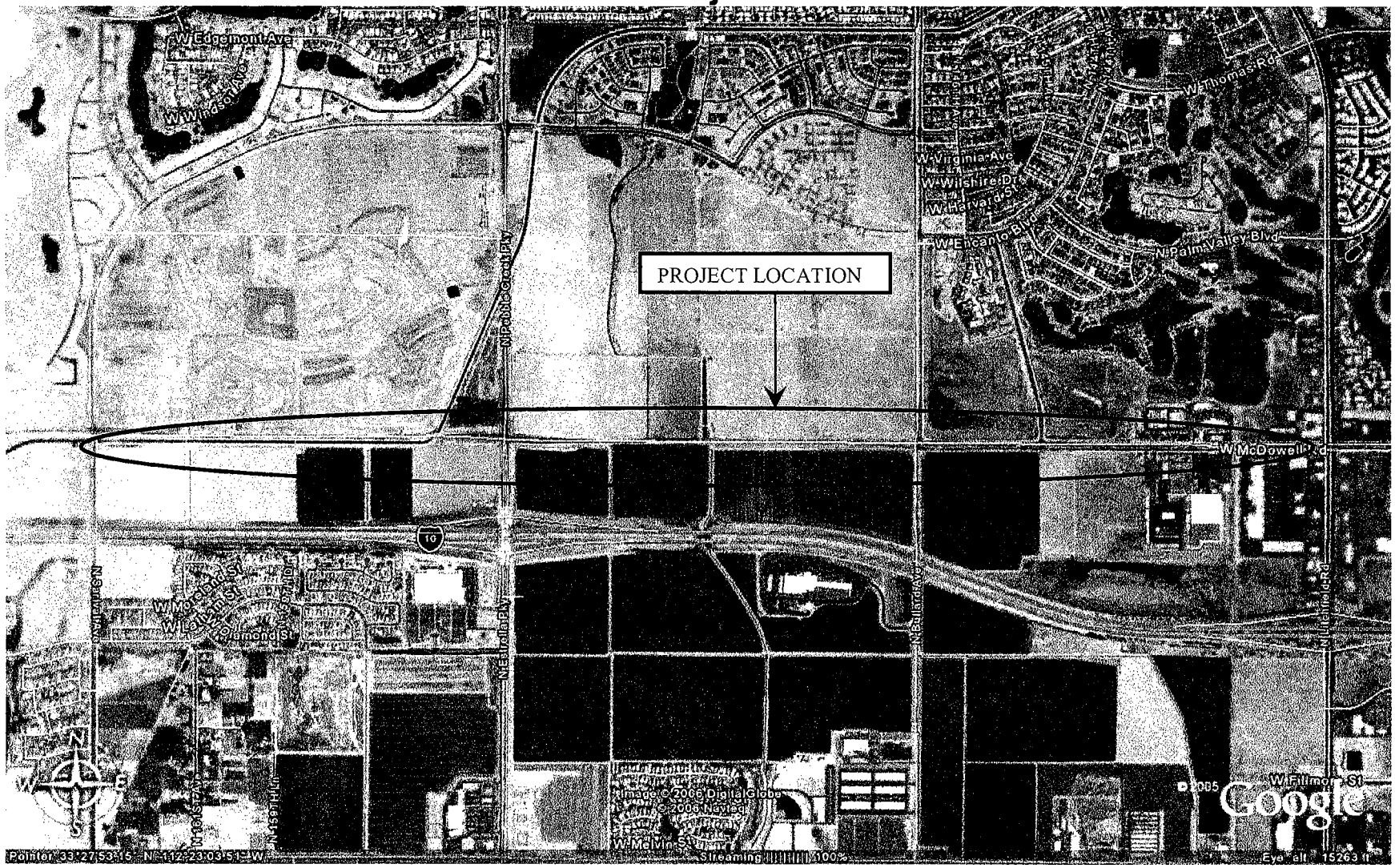
If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.

EXHIBIT A
Regional Project Site



McDowell Rd, Goodyear, AZ.

EXHIBIT B
Local Project Site



McDowell Road, Sarival Road to Litchfield Road - 3 Miles

EXHIBIT C

Project Description

This proposed 2012 project is to design, develop construction plans, and construct, a fiber optic interconnect extension on McDowell Road, for a distance of 3 miles, from Sarival Road to Litchfield Road, expanding the City of Goodyear's Traffic Management System. Existing conduit is planned to be used for 1 mile, between Bullard Avenue and Litchfield Road. A companion TIP project will be constructed in 2007 to provide 96-fiber cable fiber optic backbone infrastructure along Litchfield Road from MC 85 to Wigwam Boulevard, connecting 15 of the City's 20 traffic signals and allowing video observation. Another companion TIP project will provide the equipment for a Traffic Management Center, in an existing City building, in 2007.

This project is necessary due to an additional 15 traffic signals, with video observation capabilities, being constructed along, or immediately adjacent to the proposed project corridor. Estrella Falls Mall and numerous power centers, commercial developments, and multi-family residential developments are planned for completion within the next five years, necessitating the six-lane major roadway, additional signalized intersections, and state-of-the-art ITS signal coordination and management.

EXHIBIT D

MAG CMAQ Funding Justification

The City of Goodyear is experiencing a much more rapid than normal level of commercial and residential growth, and keeping pace with managing traffic, and the resulting air quality from emissions, has continued to be a challenge. McDowell Road is scheduled for widening to six through-lanes within the next twelve months, including several new signalized intersections. The widening and related new intersections are related to Estrella Falls Mall (2008) and adjacent power centers, multi-family housing developments, as well as numerous single family and commercial development within the corridor. The recent opening of the Cardinals Stadium, existing and proposed developments along the Litchfield Road corridor, ongoing developments on McDowell Road in Avondale to the east, and the developments described above, will bring a significant increase in traffic volumes within the next three years. All of the new traffic signals will have video observation capabilities, requiring fiber optic pathways back to the City's Traffic Management Center, to be constructed in 2007/2008.

As these new signals are implemented, and as surges in expected traffic manifest themselves for the mall and surrounding developments, especially during the holiday seasons, observation and effective management of traffic will result in congestion mitigation, signal progression and reduced emissions through more effective traffic movement and reduced idling. This will be achieved through a combination of effective signal operations; observation and reaction to spot congestion; and effective communications between devices in the field and the Traffic Management Center.

This project is part of the evolution of the City's traffic management approach, ultimately allowing regional (AZTech, MCDOT, ADOT, Avondale) coordination and participation in traffic management for activity centers (the new Regional Mall, Cardinals Stadium, Phoenix International Raceway), as well as for reacting to incidents (I-10, local arterials, adjacent cities, Palo Verde nuclear power plant) that will further impact the McDowell Road corridor.

EXHIBIT E

Cost Estimate

NO.	*DESCRIPTION*	*QTY*	*UNIT*	*UNIT COST*	*TOTAL COST*
1	12-Fiber Cable, Single Mode	2,000	L. Ft.	$ 10.00	$ 20,000
2	96-Fiber Cable, Single Mode	16,000	L. Ft.	$ 6.25	$ 100,000
3	Fiber Terminations, Splices & Closures	1	L. Sum	$ 20,000	$ 20,000
4	2" PVC Conduit - Trenched	2,000	L. Ft.	$ 50	$ 100,000
5	2 - 2" PVC Conduit - Trenched	11,000	L. Ft.	$ 25	$ 275,000
6	2- 2" PVC Conduit – Jack & Bore	2,000	L. Ft.	$ 30	$ 60,000
7	No. 7 Pull Box With Extension	30	Each	$ 700	$ 21,000
8	City Fiber Optic Pull Box	15	Each	$ 1,200	$ 18,000
9	Remove Existing Pull Box	1	L. Sum	$ 5,000	$ 5,000
				Subtotal:	$ 619,000
	Design				$ 75,000
	Construction Engineering (ADOT 15%)				$ 100,350
	Contingency				$ 50,000
				TOTAL:	**$ 844,350**

Reference: City of Glendale bids, 8/2005

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently funding is available only for **FY 2012**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.

- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.

- Part C: MAG Technical Committee Additional Information. This section is used to collect information requested by the MAG ITS Committee. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Sarath Joshua**	2.	Telephone: **602-254-6300**
3.	E-mail **sjoshua@mag.maricopa.gov**	4.	Date: **09/01/2006**

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ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently funding is available only for **FY 2008, FY 2009, FY 2010 and FY 2012**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   Maricopa Association of Governments

2. Year (Please check only one box):

   ☒ FY 2008 ☐ FY 2009 ☐ FY 2010 ☐ FY 2012

3. Project Location (The project limits if applicable):

   Various Location

4. Type of Work (Description of the work to be performed):

   Traffic signal optimization

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $300,000.00

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   UPWP

8. Type of Local Funds to be Used: (Please check only one box.):

   ☐ HURF ☐ Impact Fees

   ☐ General Fund ☐ Bond Proceeds

   ☐ Sales Tax ☐ Private

   ☐ Property Tax ☐ Other, Please specify:

   _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

   $300,000.00

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

   Various Location

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes design, right-of-way acquisition and construction phases, identification of any major structures (e.g. bridges) to be constructed and the relationship of the project to other programmed and planned projects in the TIP, regional plan, local capital improvement programs or local plans.

The purpose of this project is to provide technical assistance to member agencies for improving traffic signal coordination, optimization and review operations through simulation modeling.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

The traffic signal optimization projects were supported by CMAQ funds in the past to provide consultant assistance to member agencies. The TSOP has been championed by the MAG Intelligent Transportation Systems Program to provide traffic engineering assistance for refining signal operations across the MAG region. The projects range from developing Synchro network, coordinating signal timings among agencies and optimizing existing signal timing plans.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.
   This project may include purchasing traffic optimization and simulation software for member agencies, consultant fee for developing simulation network, optimize signal timing plans and so on.

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

The project is not a construction project and will go through the MAG Unified Work Program. It takes about 6 to 9 months to implement.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **Various location**	2. Name of the Roadway Section Used for the ADT Estimate: **Various location**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☒ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **Various**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **Same**	6. Length of the Facility (in miles): **Various**
7. Township Coordinate of the Midpoint of the Facility: **Various**	8 Range Coordinate of the Midpoint of the Facility: **Various**	9. Section Coordinate of the Midpoint of the Facility: **Various**

10. If the project improves traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **Various**

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☒ Includes Traffic Signal Improvements for a Single Agency
- ☒ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ Includes FMS Improvements
- ☒ The Project Conforms to Local Land Use Plans
- ☐ The facility is on the adopted MAG Roads of Regional Significance Network
- ☐ Adds Traffic Signals that increase pedestrian crossing time for seniors

12 Management System (Please check only <u>one</u> box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
- ☐ Pavement Management System (PMS)
- ☐ Public Transportation Management System (PTMS)
- ☐ Safety Management System (SMS)
- ☐ Intermodal Management System (IMS)
- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

1

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Committee Rating System

The Rating System Subcommittee of the MAG ITS Committee is responsible for developing and refining the MAG ITS Project Rating System. The initial effort on developing a project rating system was launched in 1998 and was used to compare projects in 1998 and 1999. It was by no means a perfect system, but provided a systematic and an objective method to compare projects, taking into account key factors considered important by the committee. The subcommittee further revised this system in June 2000 and in August 2001. The current system was adopted by the MAG ITS Committee on September 6, 2001.

The primary purpose of the ITS Project Rating System is to help the MAG ITS Committee prioritize ITS projects submitted by member agencies for inclusion in the annual update of the Transportation Improvement Program (TIP). Only projects that qualify as ITS projects are rated using this system. How projects are deemed qualified as ITS projects eligible for federal funds, is based on the National ITS Architecture developed by the USDOT. A regional architecture that is compatible with the National ITS Architecture is a requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems. Market Package definitions contained within National ITS Architecture documents are used as the sole criteria to determine whether a candidate project submitted by a MAG member agency for inclusion in the TIP qualifies as an ITS project. Projects that may not meet federal requirements to qualify as an ITS project may qualify for federal funding as a street improvement project.

A number of factors are considered in the ITS Project Rating System. They ensure that projects that foster regional integration, consistency with regional architecture, cost-benefit ratio, and equity are given due credit in the project prioritization process. The rating system accomplishes the following:

- Provides the ability to rate projects submitted by all member agencies on an objective basis
- Encourages integrated rather than fragmented systems
- Encourages regional cooperation
- Encourages projects that extend seamlessly across boundaries
- Encourages projects that are likely to yield higher cost-benefits ratio
- Encourages higher matching funds by cities - stretches the federal funds for more projects

Website for ITS data entry

To provide information for the ITS project rating System and obtain the needed reports and other information on ITS see the MAG website at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Contact Information

Please contact Sarath Joshua at (602) 254-6300 or sjoshua@mag.maricopa.gov for additional information or questions.

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ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently funding is available only for **FY 2012**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.

- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.

- Part C: MAG Technical Committee Additional Information. This section is used to collect information requested by the MAG ITS Committee. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Sarath Joshua**	2.	Telephone: **602-254-6300**
3.	E-mail **sjoshua@mag.maricopa.gov**	4.	Date: **09/01/2006**

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ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently funding is available only for **FY 2008, FY 2009, FY 2010 and FY 2012**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   Maricopa Association of Governments

2. Year (Please check only one box):

   ☐ FY 2008 ☒ FY 2009 ☐ FY 2010 ☐ FY 2012

3. Project Location (The project limits if applicable):

   Various Location

4. Type of Work (Description of the work to be performed):

   Traffic signal optimization

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $500,000.00

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   UPWP

8. Type of Local Funds to be Used: (Please check only one box.):

   ☐ HURF ☐ Impact Fees

   ☐ General Fund ☐ Bond Proceeds

   ☐ Sales Tax ☐ Private

   ☐ Property Tax ☐ Other, Please specify:

   _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

   $500,000.00

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

   Various Location

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes design, right-of-way acquisition and construction phases, identification of any major structures (e.g. bridges) to be constructed and the relationship of the project to other programmed and planned projects in the TIP, regional plan, local capital improvement programs or local plans.

   The purpose of this project is to provide technical assistance to member agencies for improving traffic signal coordination, optimization and review operations through simulation modeling.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

   The traffic signal optimization projects were supported by CMAQ funds in the past to provide consultant assistance to member agencies. The TSOP has been championed by the MAG Intelligent Transportation Systems Program to provide traffic engineering assistance for refining signal operations across the MAG region. The projects range from developing Synchro network, coordinating signal timings among agencies and optimizing existing signal timing plans.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

   This project may include purchasing traffic optimization and simulation software for member agencies, consultant fee for developing simulation network, optimize signal timing plans and so on.

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

   The project is not a construction project and will go through the MAG Unified Work Program. It takes about 6 to 9 months to implement.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **Various location**	2. Name of the Roadway Section Used for the ADT Estimate: **Various location**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☒ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **Various**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **Same**	6. Length of the Facility (in miles): **Various**
7. Township Coordinate of the Midpoint of the Facility: **Various**	8 Range Coordinate of the Midpoint of the Facility: **Various**	9. Section Coordinate of the Midpoint of the Facility: **Various**

10. If the project improves traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **Various**

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
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☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☒ Includes Traffic Signal Improvements for a Single Agency
- ☒ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ Includes FMS Improvements
- ☒ The Project Conforms to Local Land Use Plans
- ☐ The facility is on the adopted MAG Roads of Regional Significance Network
- ☐ Adds Traffic Signals that increase pedestrian crossing time for seniors

12 Management System (Please check only one box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
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- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

2

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Committee Rating System

The Rating System Subcommittee of the MAG ITS Committee is responsible for developing and refining the MAG ITS Project Rating System. The initial effort on developing a project rating system was launched in 1998 and was used to compare projects in 1998 and 1999. It was by no means a perfect system, but provided a systematic and an objective method to compare projects, taking into account key factors considered important by the committee. The subcommittee further revised this system in June 2000 and in August 2001. The current system was adopted by the MAG ITS Committee on September 6, 2001.

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A number of factors are considered in the ITS Project Rating System. They ensure that projects that foster regional integration, consistency with regional architecture, cost-benefit ratio, and equity are given due credit in the project prioritization process. The rating system accomplishes the following:

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- Encourages integrated rather than fragmented systems
- Encourages regional cooperation
- Encourages projects that extend seamlessly across boundaries
- Encourages projects that are likely to yield higher cost-benefits ratio
- Encourages higher matching funds by cities - stretches the federal funds for more projects

Website for ITS data entry

To provide information for the ITS project rating System and obtain the needed reports and other information on ITS see the MAG website at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Contact Information

Please contact Sarath Joshua at (602) 254-6300 or sjoshua@mag.maricopa.gov for additional information or questions.

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ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently funding is available only for **FY 2012**.

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This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.

- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.

- Part C: MAG Technical Committee Additional Information. This section is used to collect information requested by the MAG ITS Committee. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Sarath Joshua**	2.	Telephone: **602-254-6300**
3.	E-mail **sjoshua@mag.maricopa.gov**	4.	Date: **09/01/2006**

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ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently funding is available only for **FY 2008, FY 2009, FY 2010 and FY 2012**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   Maricopa Association of Governments

2. Year (Please check only one box):

   ☐ FY 2008 ☐ FY 2009 ☐ FY 2010 ☒ FY 2012

3. Project Location (The project limits if applicable):

   Various Location

4. Type of Work (Description of the work to be performed):

   Traffic signal optimization

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $500,000.00

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   UPWP

8. Type of Local Funds to be Used: (Please check only one box.):

   ☐ HURF ☐ Impact Fees

   ☐ General Fund ☐ Bond Proceeds

   ☐ Sales Tax ☐ Private

   ☐ Property Tax ☐ Other, Please specify:

   _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

   $500,000.00

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

   Various Location

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes design, right-of-way acquisition and construction phases, identification of any major structures (e.g. bridges) to be constructed and the relationship of the project to other programmed and planned projects in the TIP, regional plan, local capital improvement programs or local plans.

   The purpose of this project is to provide technical assistance to member agencies for improving traffic signal coordination, optimization and review operations through simulation modeling.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

   The traffic signal optimization projects were supported by CMAQ funds in the past to provide consultant assistance to member agencies. The TSOP has been championed by the MAG Intelligent Transportation Systems Program to provide traffic engineering assistance for refining signal operations across the MAG region. The projects range from developing Synchro network, coordinating signal timings among agencies and optimizing existing signal timing plans.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

   This project may include purchasing traffic optimization and simulation software for member agencies, consultant fee for developing simulation network, optimize signal timing plans and so on.

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

   The project is not a construction project and will go through the MAG Unified Work Program. It takes about 6 to 9 months to implement.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **Various location**	2. Name of the Roadway Section Used for the ADT Estimate: **Various location**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☒ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **Various**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **Same**	6. Length of the Facility (in miles): **Various**
7. Township Coordinate of the Midpoint of the Facility: **Various**	8 Range Coordinate of the Midpoint of the Facility: **Various**	9. Section Coordinate of the Midpoint of the Facility: **Various**

10. If the project improves traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **Various**

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☒ Includes Traffic Signal Improvements for a Single Agency
- ☒ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ Includes FMS Improvements
- ☒ The Project Conforms to Local Land Use Plans
- ☐ The facility is on the adopted MAG Roads of Regional Significance Network
- ☐ Adds Traffic Signals that increase pedestrian crossing time for seniors

12 Management System (Please check only one box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
- ☐ Pavement Management System (PMS)
- ☐ Public Transportation Management System (PTMS)
- ☐ Safety Management System (SMS)
- ☐ Intermodal Management System (IMS)
- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

3

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Committee Rating System

The Rating System Subcommittee of the MAG ITS Committee is responsible for developing and refining the MAG ITS Project Rating System. The initial effort on developing a project rating system was launched in 1998 and was used to compare projects in 1998 and 1999. It was by no means a perfect system, but provided a systematic and an objective method to compare projects, taking into account key factors considered important by the committee. The subcommittee further revised this system in June 2000 and in August 2001. The current system was adopted by the MAG ITS Committee on September 6, 2001.

The primary purpose of the ITS Project Rating System is to help the MAG ITS Committee prioritize ITS projects submitted by member agencies for inclusion in the annual update of the Transportation Improvement Program (TIP). Only projects that qualify as ITS projects are rated using this system. How projects are deemed qualified as ITS projects eligible for federal funds, is based on the National ITS Architecture developed by the USDOT. A regional architecture that is compatible with the National ITS Architecture is a requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems. Market Package definitions contained within National ITS Architecture documents are used as the sole criteria to determine whether a candidate project submitted by a MAG member agency for inclusion in the TIP qualifies as an ITS project. Projects that may not meet federal requirements to qualify as an ITS project may qualify for federal funding as a street improvement project.

A number of factors are considered in the ITS Project Rating System. They ensure that projects that foster regional integration, consistency with regional architecture, cost-benefit ratio, and equity are given due credit in the project prioritization process. The rating system accomplishes the following:

- Provides the ability to rate projects submitted by all member agencies on an objective basis
- Encourages integrated rather than fragmented systems
- Encourages regional cooperation
- Encourages projects that extend seamlessly across boundaries
- Encourages projects that are likely to yield higher cost-benefits ratio
- Encourages higher matching funds by cities - stretches the federal funds for more projects

Website for ITS data entry

To provide information for the ITS project rating System and obtain the needed reports and other information on ITS see the MAG website at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Contact Information

Please contact Sarath Joshua at (602) 254-6300 or sjoshua@mag.maricopa.gov for additional information or questions.

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MMA-01

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – S2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M.**

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006.** The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Maricopa County Department of Transportation** **Faisal Saleem**	2.	Telephone: **602-506-1241**
3.	E-mail **faisalsaleem@mail.maricopa.gov**	4.	Date: **8/30/2006**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   Maricopa County Department of Transportation

2. Year (Please check only one box):

   ☒ FY 2008 ☐ FY 2009 ☐ FY 2010 ☐ FY 2012

3. Project Location (The project limits if applicable):

   Sun City West: R.H. Johnson Boulevard (151st Avenue to Bell Road) and Meeker Boulevard (Granite Valley Drive to R.H. Johnson Boulevard)

4. Type of Work (Description of the work to be performed):

   Completion of fiber infrastructure where only backbone conduit currently exists, including the construction of new pull boxes and branch conduits, and installation of new backbone and branch fiber, for connectivity of existing traffic signals and existing/future ITS field devices

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   355,600

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   152,400

8. Type of Local Funds to be Used: (Please check only one box.):

   ☒ HURF ☐ Impact Fees

   ☐ General Fund ☐ Bond Proceeds

   ☐ Sales Tax ☐ Private

   ☐ Property Tax ☐ Other, Please specify: _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

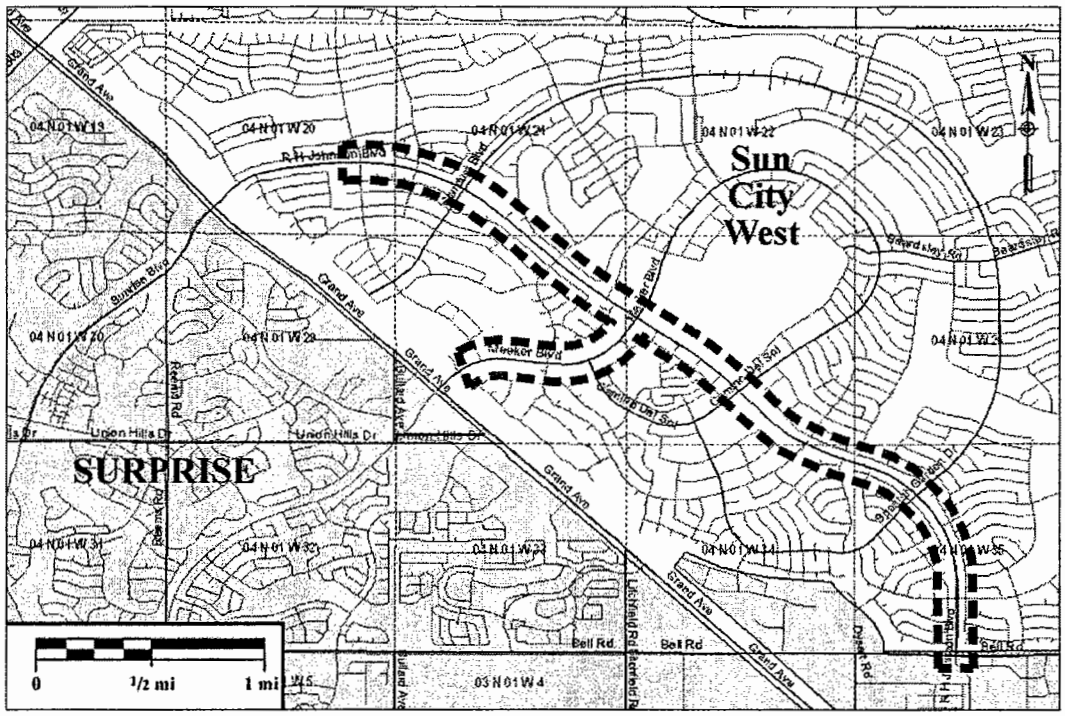
   $508,000

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.



2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.

This project will install fiber infrastructure on two roadways in Sun City West: R.H. Johnson Boulevard (between 151st Avenue and Bell Road) and Meeker Boulevard (between Granite Valley Drive and R.H. Johnson Boulevard). It includes construction of new splice-capable pull boxes on the existing conduit backbone, construction of branch conduits, installation of fiber optic cable, and installation of wireless connections to the MCDOT system and to additional traffic signals not directly along the conduit route. By connecting into the MCDOT system via the existing Bell Road ITS infrastructure and the new wireless connection, this project will enable connectivity for existing traffic signals and CCTV cameras, and support future, programmed ITS field devices. Equipment to be purchased as part of this project includes fiber optic cable, pull boxes, branch conduit, splice enclosures, wireless equipment, and all other required equipment. Design, right-of-way acquisition, and purchase of new ITS field devices are not included in this project.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

This project will interconnect 16 traffic signals and 3 existing CCTV cameras to the MCDOT traffic management system, and provide connectivity for 4 future CCTV cameras (MCDOT funded). Although not prone to heavy congestion, this corridor is the primary access point for the Maricopa County Events Center which is a 7000+ seat venue with events scheduled throughout the year. RH Johnson is also a key detour route for Bell Road (as identified in the Bell Road Alternate Route Guide). Improvements to signal coordination, traffic management and real-time traffic monitoring via CCTV, will improve traffic flow, and greatly help manage traffic during major event ingress and egress to minimize impacts for nearby residents and enhance patron safety.

This project will contribute to an integrated regional ITS infrastructure by connecting to the existing, multi-jurisdictional Bell Road ITS project, and the data sent to the MCDOT TMC will ultimately be transferable to other jurisdictions by center-to-center communications via the planned Regional Community Network (RCN).

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

Conduit and Pull Boxes	$195,000.00
Bckbone Fiber and Related Field Equipment	90,000.00
Branch Fiber	3,000.00
Support Equipment (Field Only)	50,000.00
Mobilization/Traffic Control/Removals	170,000.00
Signal Modernization/CCTV	0.00*
Total	**$508,000.00**

*This project will install fiber in existing conduit on 4.5 miles of arterial roadway, and connect to the Bell Road fiber at RH Johnson/Bell Road. MCDOT will fund signal/CCTV equipment.

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate. MCDOT will be fund and perform the design.

Prepare Base Plans	January 07 (Duration: 2 weeks)
Establish Utility and Right of Way for Project	January 07 (Duration: 1 week)
Existing Fiber Infrastructure & ITS Equipment Coordination	January 07 (Duration: 1 week)
Environmental Documentation/Mini-DCR	February 07 (Duration: 6 weeks)
Prepare 40% Plans	March 07 (Duration: 8 weeks)
Prepare 70% Plans	May 07 (Duration: 10 weeks)
Prepare 90% Plans	August 07 (Duration: 10 weeks)
Prepare 100% Plans	October 07 (Duration: 6 weeks)
Request Formal Obligation of Project Funds	December 07 (Duration: 24 weeks)
Bidding Phase Assistance	May 08 (Duration: 8 weeks)
Construction	July 2008-July 2009

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **16,000 (2003 count)**	2. Name of the Roadway Section Used for the ADT Estimate: **R.H. Johnson Blvd.**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☐ Arterial Street ☒ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **6, except only 4 on R.H. Johnson north of Meeker (1.5 mi)**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **4-6 (no change)**	6. Length of the Facility (in miles): **4.5 miles**
7. Township Coordinate of the Midpoint of the Facility: **T4N**	8 Range Coordinate of the Midpoint of the Facility: **R1W**	9. Section Coordinate of the Midpoint of the Facility: **27**

10. If the project is expected to improve traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **35**

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

	Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐	Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐	Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐	Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐	Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☒	Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐	Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☒ Includes Traffic Signal Improvements for a Single Agency
- ☐ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ The Project Conforms to Local Land Use Plans
- ☐ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only one box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
- ☐ Pavement Management System (PMS)
- ☐ Public Transportation Management System (PTMS)
- ☐ Safety Management System (SMS)
- ☐ Intermodal Management System (IMS)
- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

"1"

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website.**

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website)
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects)
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr)
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming)
- Applicable ITS User Services, Market Packages from National ITS Architecture
- Required communications for data sharing with other agencies (if any)
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies)

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.

MMA-02

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – S2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M.**

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006.** The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Maricopa County Department of Transportation** **Faisal Saleem**	2.	Telephone: **602-506-1241**
3.	E-mail **FaisalSaleem@mail.maricopa.gov**	4.	Date: **602-506-1241**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   Maricopa County DOT in Partnership with Arizona DOT and Cities of Chandler, Scottsdale, Surprise and Tempe

2. Year (Please check only one box):

   ☒ FY 2008 ☐ FY 2009 ☐ FY 2010 ☐ FY 2012

3. Project Location (The project limits if applicable):

   N/A (Valleywide)

4. Type of Work (Description of the work to be performed):

   Develop and implement system enhancements to expand arterial traveler information capabilities valleywide. Includes data integration enhancements and expansion of arterial information on 511 and az511.com.

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $385,000

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   $165,000

8. Type of Local Funds to be Used: (Please check only one box.):

   ☒ HURF ☐ Impact Fees
   ☐ General Fund ☐ Bond Proceeds
   ☐ Sales Tax ☐ Private
   ☐ Property Tax ☐ Other, Please specify: _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

   $550,000

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

   This is a regional project that includes multiple partners, including Arizona DOT, Maricopa County DOT, and the Cities of Chandler, Scottsdale, Surprise and Tempe. Project will have an impact area that includes the entire metro area.

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.

This project will enhance and expand the region's arterial advanced traveler information system and capabilities. This project would focus on linking planned construction and event data from permitting systems in Surprise, Scottsdale, Tempe with RADS and HCRS by establishing web processing capabilities and interfaces to facilitate data sharing. This project will be established similar to the Phoenix Fire CAD data interface with RADS and HCRS. It will also include software upgrades and modifications to 511 web and phone (including enhanced arterial mapping features and functions on az511.com) to support more comprehensive arterial traveler information.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

Arterial traveler information enhancements are needed to integrate more local data into the regional data server, as well as enhance dissemination tools that are available to travelers. At present, arterial network information is not widely available from local transportation agencies, nor is it widely accessible to travelers through the existing 511 and az511.com tools. The interface between ADOT, MCDOT and City of Phoenix Fire collects arterial incident data; implementing processes and capabilities through this project will automate the information exchange between local jurisdictions and the RADS to collect local permitting information (planned closure data) for key arterials throughout the Valley. This interface will ease the burden on local jurisdictions to enter data in multiple locations and systems. Enhancements to 511 phone and az511.com for expanded arterial data and arterial mapping will enhance the information available to travelers through these resources. Arterial traveler information was identified as a key goal in the (draft) Arterial ITS Plan prepared by the MAG Arterial ITS Working Group.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

Develop arterial map and mapping functions within HCRS	$250,000.00
Enhancements to 511 web and phone	50,000.00
Software development and integration	250,000.00
Total	**$550,000.00**

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

Partner coordination and concept development	Oct. 2007-Dec 2007
Map enhancements	Jan. 2008-Dec. 2008
Software development and integration, links to jurisdictions	Jan 2008-Jan. 2009
511 phone and web enhancements with ADOT	Sept. 2008-Dec. 2008
Testing	Dec. 2008-Jan. 2009
Launch enhanced arterial features	Jan. 2009

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type:	2. Name of the Roadway Section Used for the ADT Estimate: **Applies to all arterials in Chandler, Tempe, Scottsdale, Surprise, and Maricopa County**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☐ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes):	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes):	6. Length of the Facility (in miles): **Applies to all arterials in Chandler, Tempe, Scottsdale, Surprise, and Maricopa County**
7. Township Coordinate of the Midpoint of the Facility:	8 Range Coordinate of the Midpoint of the Facility:	9. Section Coordinate of the Midpoint of the Facility:

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

10. If the project is expected to improve traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor:

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

11. Other Project Information: (Check as many as are applicable):

☐ Includes Traffic Signal Improvements for a Single Agency
☐ Includes Traffic Signal Improvements that Apply to More than One Agency
☐ The Project Conforms to Local Land Use Plans
☐ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only <u>one</u> box)

☒ Congestion Management System (CMS)
☐ Bridge Management System (BMS)
☐ Pavement Management System (PMS)
☐ Public Transportation Management System (PTMS)
☐ Safety Management System (SMS)
☐ Intermodal Management System (IMS)
☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

This is a regional project that includes multiple partners: Maricopa County DOT, Arizona DOT, and Cities of Chandler, Tempe, Scottsdale and Surprise.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website**.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website)
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects)
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr)
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming)
- Applicable ITS User Services, Market Packages from National ITS Architecture
- Required communications for data sharing with other agencies (if any)
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies)

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.

MMA-03

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – S2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M.**

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006.** The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Faisal Saleem, Maricopa County DOT**	2.	Telephone: **602-506-1241**
3.	E-mail **FaisalSaleem@mail.maricopa.gov**	4.	Date: **August 31, 2006**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   Maricopa County Dept. of Transportation, Cities of Glendale, Peoria and Scottsdale

2. Year (Please check only one box):

   ☐ FY 2008 ☒ FY 2009 ☐ FY 2010 ☐ FY 2012

3. Project Location (The project limits if applicable):

   City of Glendale City Limits, City of Peoria City Limits

4. Type of Work (Description of the work to be performed):

   Establish local REACT arterial incident response teams at the Cities of Glendale and Peoria.

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $867,200.00

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   $371,659.00 (to be shared among MCDOT, Cities of Scottsdale, Peoria, Glendale)

8. Type of Local Funds to be Used: (Please check only one box.):

   ☒ HURF ☐ Impact Fees
   ☐ General Fund ☐ Bond Proceeds
   ☐ Sales Tax ☐ Private
   ☐ Property Tax ☐ Other, Please specify: _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

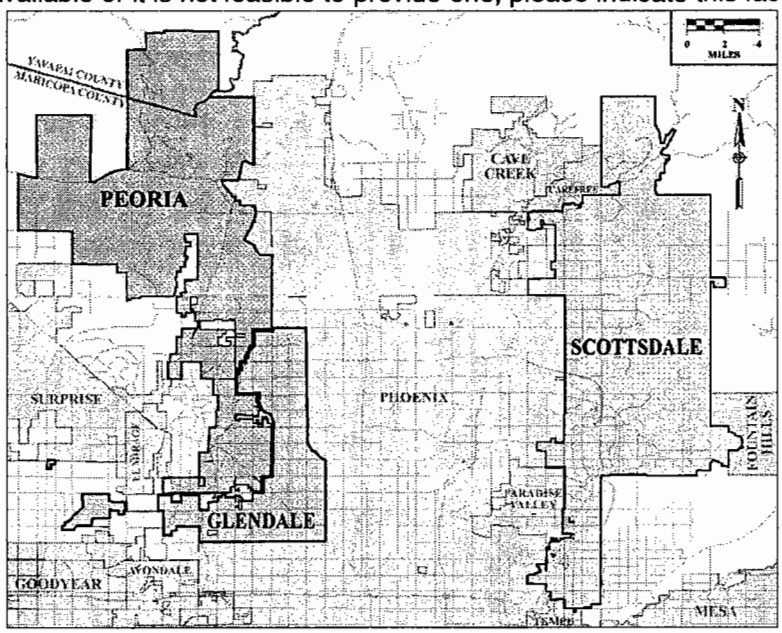
   $1,238,859.00

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.



Project location for the REACT expansion would include the city limits of the Cities of Peoria, Glendale, and Scottsdale.

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.

The Regional Emergency Action Coordinating Team (REACT) is a highly specialized and unique arterial incident response program. REACT assists public safety agencies by providing emergency arterial traffic management support and strategies during incidents and closures. This includes setting up lane/road closures, installing and maintaining signed detour routes, and providing information to motorists. Established in 2001 by the Maricopa County DOT and AZTech regional partnership, REACT currently serves several West Valley jurisdictions. Teams are based from MCDOT, and are on-call 24/7 to respond when needed.

This project will establish REACT response teams at the Cities of Glendale, Peoria, and Scottsdale with ongoing program management from MCDOT. This would include purchasing equipment (response trucks with signage, traffic control equipment and safety equipment) and establishing joint operations between REACT headquarters at MCDOT and the local response teams in Glendale, Peoria and Scottsdale.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

The REACT program is a pivotal resource for the region's transportation and public safety community. REACT provides emergency traffic management support for incidents impacting major arterials. In doing so, REACT's services are key to enhancing safety of emergency responders and travelers near the incident scene, minimizing incident-related congestion and delay (thus reducing fuel emissions caused by idling vehicles), and reducing the potential for secondary accidents.

The Arterial ITS Plan for the Phoenix Metropolitan Region (Draft, August 2006) identifies effective arterial management techniques and managing traffic flow affected by incidents and other abnormal conditions as two key goals of the region's Arterial ITS. REACT directly supports these goals and objectives by improving safety for responders and motorists during arterial incidents and closures, and minimizing incident-related congestion and delay. MAG previously funded a very successful REACT expansion in the City of Surprise, and this will use a similar model.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

   Please see Attachment A for the cost breakdown table.

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

Partner coordination and strategy	February 2009
Procure Year 1 equipment	May 2009
Procure Year 2 equipment	May 2010
Procure Year 3 equipment	May 2011

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type:	2. Name of the Roadway Section Used for the ADT Estimate: **All arterials in Scottsdale, Peoria, Glendale**	3. Type of Facility to be Improved (Check only one box): ☒ Arterial > 4 legs (e.g. Grand) ☐ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes):	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes):	6. Length of the Facility (in miles): **All arterials in Scottsdale, Peoria, Glendale**
7. Township Coordinate of the Midpoint of the Facility:	8 Range Coordinate of the Midpoint of the Facility:	9. Section Coordinate of the Midpoint of the Facility:

10. If the project is expected to improve traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor:

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☐ Includes Traffic Signal Improvements for a Single Agency
- ☐ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ The Project Conforms to Local Land Use Plans
- ☒ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only <u>one</u> box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
- ☐ Pavement Management System (PMS)
- ☐ Public Transportation Management System (PTMS)
- ☐ Safety Management System (SMS)
- ☐ Intermodal Management System (IMS)
- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

This is a regional project partnership between Maricopa County DOT, City of Glendale and City of Peoria.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website.**

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website)
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects)
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr)
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming)
- Applicable ITS User Services, Market Packages from National ITS Architecture
- Required communications for data sharing with other agencies (if any)
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies)

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.

ATTACHMENT A
REACT Cost Breakdown

Project Cost

Year 1 (2009)		# of Units	Cost per Unit	Total Cost
Glendale Program				
	Vehicles	3	$68,000.00	$204,000.00
	Personnel Equipment	0	$1,000.00	$0.00
	Stand-by pay	0	$2.00	$0.00
	Overtime	0	$36.00	$0.00
	Fuel	0	$3.00	$0.00
				$204,000.00
Peoria Program				
	Vehicles	3	$68,000.00	$204,000.00
	Personnel Equipment	0	$1.00	$0.00
	Stand-by pay	0	$2.50	$0.00
	Overtime	0	$36.00	$0.00
	Fuel	0	$3.00	$0.00
				$204,000.00
*Scottsdale Program**				
	Vehicles	2	$68,000.00	$136,000.00
MCDOT				
	Vehicles	0	$68,000.00	$0.00
	Personnel Equipment	1	$1,000.00	$1,000.00
	Stand-by pay	0	$1.75	$0.00
	Overtime	0	$36.00	$0.00
	Salary	0	$24.00	$0.00
	Fuel	0	$3.00	$0.00
				$1,000.00
	Total Year 1 Cost			**$545,000.00**
Year 2 (2010)				
Glendale Program				
	Personnel Equipment	2	$1,000.00	$2,000.00
	Expendables	3	$5,000.00	$15,000.00
	Stand-by pay	6376	$2.00	$12,752.00
	Overtime	204	$36.00	$7,344.00
	Fuel	9360	$3.00	$28,080.00
				$65,176.00
Peoria Program				
	Personnel Equipment	2	$1,000.00	$2,000.00
	Expendables	3	$5,000.00	$15,000.00
	Stand-by pay	6376	$2.50	$15,940.00
	Overtime	204	$36.00	$7,344.00
	Fuel	9360	$3.00	$28,080.00
				$68,364.00
*Scottsdale Program**				
	Vehicles	2	$68,000.00	$136,000.00

ATTACHMENT A
REACT Cost Breakdown

Project Cost

		# of	Cost per	Total
MCDOT				
	Personnel Equipment	1	$1,000.00	$1,000.00
	Expendables	1	$5,000.00	$5,000.00
	Stand-by pay	6376	$1.75	$11,158.00
	Overtime	204	$36.00	$7,344.00
	Salary	2080	$24.00	$49,920.00
	Fuel	0	$3.00	$0.00
				$74,422.00
	Total Year 2 Cost			**$343,962.00**
Year 3 (2011)				
Glendale Program				
	Personnel Equipment	2	$1,000.00	$2,000.00
	Expendables	3	$5,000.00	$15,000.00
	Stand-by pay	6376	$2.00	$12,752.00
	Overtime	204	$36.00	$7,344.00
	Fuel	9360	$3.50	$32,760.00
				$69,856.00
Peoria Program				
	Personnel Equipment	2	$1,000.00	$2,000.00
	Expendables	3	$5,000.00	$15,000.00
	Stand-by pay	6376	$2.50	$15,940.00
	Overtime	204	$36.00	$7,344.00
	Fuel	9360	$3.50	$32,760.00
				$73,044.00
*Scottsdale Program**				
	Vehicles	2	$68,000.00	$136,000.00
MCDOT				
	Personnel Equipment	1	$1,000.00	$1,000.00
	Expendables	1	$5,000.00	$5,000.00
	Stand-by pay	6476	$1.75	$11,333.00
	Overtime	104	$36.00	$3,744.00
	Salary	2080	$24.00	$49,920.00
	Fuel	0	$3.50	$0.00
				$70,997.00
	Total Year 3 Cost			**$349,897.00**
Total Cost				**$1,238,859.00**

**Scottsdale will pay for its REACT operations through its own funding.*

Federal Cost (70%)	$867,201.30
Local Cost (30%)	$371,657.70
Partner Share	*$92,914.43*

MMA-04

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – S2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M.**

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006.** The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Maricopa County Department of Transportation** **Faisal Saleem**	2.	Telephone: **602-506-1241**
3.	E-mail **faisalsaleem@mail.maricopa.gov**	4.	Date: **9/1/2006**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   Maricopa County Department of Transportation

2. Year (Please check only one box):

   ☐ FY 2008 ☐ FY 2009 ☒ FY 2010 ☐ FY 2012

3. Project Location (The project limits if applicable):

   99th Avenue, Olive Avenue to Bell Road

4. Type of Work (Description of the work to be performed):

   Install new conduit and fiber for connectivity of existing traffic signals and existing/future ITS field devices

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $805,000

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   $345,000

8. Type of Local Funds to be Used: (Please check only one box.):

   ☒ HURF ☐ Impact Fees
   ☐ General Fund ☐ Bond Proceeds
   ☐ Sales Tax ☐ Private
   ☐ Property Tax ☐ Other, Please specify: _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

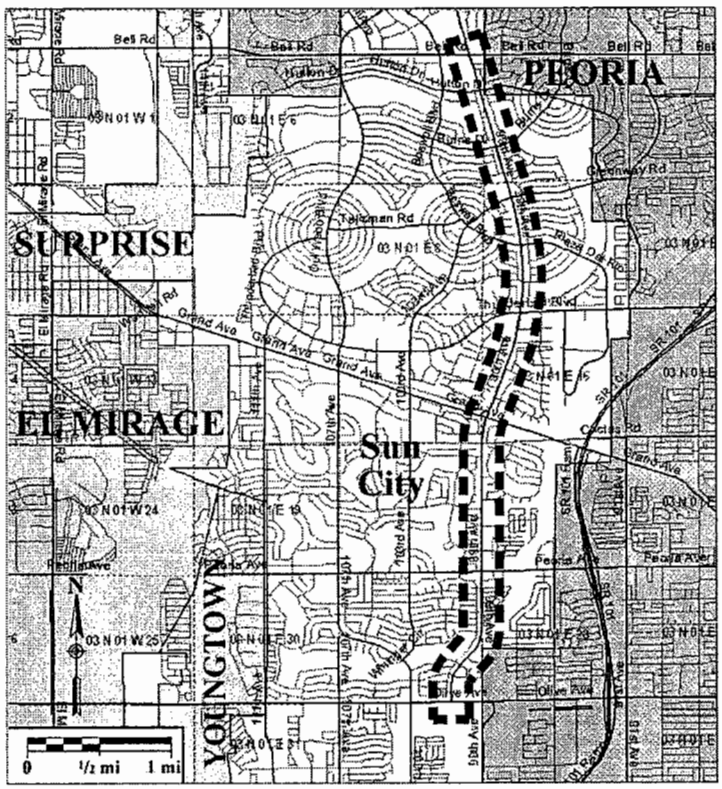
   $1,150,000

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.



2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.

This project will construct new conduit and install new fiber optic cable along 99th Avenue, between Olive Avenue and Bell Road, plus the installation of wireless connections to the MCDOT traffic management system and to additional traffic signals not directly along the conduit route. The new infrastructure will provide connectivity for existing traffic signals, mid-block detection, and CCTV cameras, and for future ITS field devices. This project will connect to the MCDOT backbone and provide redundant communications capabilities for other agencies. Equipment to be purchased as part of this project includes conduit, fiber optic cable, pull boxes, splice enclosures, wireless equipment, and incidental equipment related thereto. If a construction permit is needed in order to cross the BNSF rail line at Grand Avenue, its acquisition will be included as part of this project. Design, right-of-way acquisition, and purchase of new ITS field devices are not included in this project.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

This project will interconnect a total of 28 traffic signals, 4 existing CCTV cameras, and several mid-block detectors to support real-time monitoring from the MCDOT TMC. It will also provide connectivity for 6 future CCTV cameras and 2 future arterial DMS. 99th Avenue is a key north-south alternate route for SR-101.

Traffic signal coordination and real-time traffic monitoring will improve traffic flow, decrease travel times, improve safety and reduce vehicle emissions along this corridor. Signal coordination, CCTV and arterial DMS will improve incident and special event traffic management (the Cardinals Stadium and Glendale Arena are near the southern end of the project limits). Freeway-arterial coordinated operations will be enhanced by indirect connection to the ADOT FMS system at the SR-101 interchanges at Bell and/or Olive. It will provide connectivity to Bell Road, and via the MCDOT fiber backbone will provide redundant communications for other agencies.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

Conduit and Pull Boxes	$825,000.00
Backbone Fiber and Related Field Equipment	95,000.00
Branch Fiber	5,000.00
Support Equipment (Field Only)	60,000.00
Mobilization/Traffic Control/Removals	160,000.00
Signal Modernization/CCTV/DMS	0.00*
Total	**$1,145,000.00**

* This project will install conduit/fiber to support enhanced operations and communications to devices. MCDOT will fund design, signal upgrades, CCTV and DMS.

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

Prepare Base Plans	January 09 (Duration: 2 weeks)
Establish Utility and Right of Way for Project	January 09 (Duration: 1 week)
Existing Fiber Infrastructure & ITS Equipment Coordination	January 09 (Duration: 1 week)
Environmental Documentation/Mini-DCR	February 09 (Duration: 6 weeks)
Prepare 40% Plans	March 09 (Duration: 10 weeks)
Prepare 70% Plans	June 09 (Duration: 12 weeks)
Prepare 90% Plans	September 09 (Duration: 12 weeks)
Prepare 100% Plans	December 09 (Duration: 10 weeks)
Request Formal Obligation of Project Funds	February 10 (Duration: 24 weeks)
Bidding Phase Assistance	August 10 (Duration: 8 weeks)
Construction	October 2010-October 2011

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **10,000 south half / 15,000 north half (2003 counts)**	2. Name of the Roadway Section Used for the ADT Estimate: **99th Avenue**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☒ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **4**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **4**	6. Length of the Facility (in miles): **5.2 miles**
7. Township Coordinate of the Midpoint of the Facility: **T3N**	8 Range Coordinate of the Midpoint of the Facility: **R1E**	9. Section Coordinate of the Midpoint of the Facility: **16**

10. If the project is expected to improve traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **50**

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☒ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☐ Includes Traffic Signal Improvements for a Single Agency
- ☒ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ The Project Conforms to Local Land Use Plans
- ☐ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only <u>one</u> box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
- ☐ Pavement Management System (PMS)
- ☐ Public Transportation Management System (PTMS)
- ☐ Safety Management System (SMS)
- ☐ Intermodal Management System (IMS)
- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

"1"

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website.**

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website)
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects)
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr)
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming)
- Applicable ITS User Services, Market Packages from National ITS Architecture
- Required communications for data sharing with other agencies (if any)
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies)

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.

MMA-05

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – S2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M.**

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Faisal Saleem, Maricopa County DOT**	2.	Telephone: **602-506-1241**
3.	E-mail **FaisalSaleem@mail.maricopa.gov**	4.	Date: **602-506-1241**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   Maricopa County DOT

2. Year (Please check only one box):

   ☐ FY 2008 ☐ FY 2009 ☐ FY 2010 ☒ FY 2012

3. Project Location (The project limits if applicable):

   N/A (Valleywide)

4. Type of Work (Description of the work to be performed):

   Enhance the Regional Archived Data Server (RADS), including upgrading RADS equipment and software, to facilitate enhanced arterial data integration and dissemination.

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $75,000

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   $22,500

8. Type of Local Funds to be Used: (Please check only one box.):

   ☒ HURF ☐ Impact Fees

   ☐ General Fund ☐ Bond Proceeds

   ☐ Sales Tax ☐ Private

   ☐ Property Tax ☐ Other, Please specify: _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

   $97,500

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.

   This project is a regional partnership and will have an impact area covering several jurisdictions, including Maricopa County, Arizona Department of Transportation and numerous cities in the MAG region.

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.

This project will enhance RADS equipment and software to allow for additional interfaces to cities in the metro area so that real-time arterial data (incident, detection, signal operations and signal timing plans) can be included with RADS and distributed to AZTech partners on the RADS network. Enhancements are needed to integrate local signal operations data, transit data, arterial permitting data and dynamic message sign operational data. The integration of arterial data capitalizes on the investments of various local agencies to deploy and operate traffic management systems in their jurisdiction, and builds on investments in the region to establish connectivity and center-to-center communications among key partners.

RADS facilitates the storage and retrieval of archived transportation data in near real-time, including incident and freeway operations data from ADOT, incident data from state and local CAD, and data published by traffic signal systems. RADS was previously funded by MAG to support regional operations and data sharing.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

Expansion of RADS to include data from additional local jurisdictions, transit and other partners is a critical element of the region's integrated corridor operations goals identified through the AZTech partnership, MAG RCTO, and MAG ITS Committee. Transportation agencies throughout the region will benefit from the real-time reporting and operations data. This project will provide a substantial regional archive of ITS and multimodal data to support performance monitoring and future planning. The Arterial ITS Plan (draft) identifies "interagency data sharing to promote arterial operation optimization" and "archival of traffic data for operations, planning and research purposes" as two key goals and objectives of the region's arterial ITS program. RADS enhancements will help to achieve both of those key goals. It will serve as a hub and repository for local signal operations data and timing plans, arterial detection data, DMS and will also integrate local permitting information to provide a robust data resource for arterial operations and system performance.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

Procure additional hardware		$25,000.00
Software development and integration		72,500.00
	Total	**$97,500.00**

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

RADS partner coordination and planning	Oct. 2011 – Nov. 2012
Procure new hardware	Jan. 2012
Software and hardware integration	Mar 2012 – July 2012
Testing	Aug. 2012
Launch and Operations	Sept. 2012

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type:	2. Name of the Roadway Section Used for the ADT Estimate: **MAG Regionwide**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☐ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes):	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes):	6. Length of the Facility (in miles): **Impacts area of all arterials**
7. Township Coordinate of the Midpoint of the Facility:	8 Range Coordinate of the Midpoint of the Facility:	9. Section Coordinate of the Midpoint of the Facility:

10. If the project is expected to improve traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor:

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☐ Includes Traffic Signal Improvements for a Single Agency
- ☐ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ The Project Conforms to Local Land Use Plans
- ☐ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only <u>one</u> box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
- ☐ Pavement Management System (PMS)
- ☐ Public Transportation Management System (PTMS)
- ☐ Safety Management System (SMS)
- ☐ Intermodal Management System (IMS)
- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

2012 Second Priority

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website.**

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website)
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects)
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr)
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming)
- Applicable ITS User Services, Market Packages from National ITS Architecture
- Required communications for data sharing with other agencies (if any)
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies)

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.

MMA-06

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. A total of $12.3 million is available for programming ITS projects in the following amounts: **FY 2008 – S2.43M, FY 2009 - $2.49M, FY 2010 - $2.04M and FY 2012 - $5.34M.**

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section provides guidelines for submission of ITS projects. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006.** The mailing address and FAX number for the MAG offices is:

Maricopa Association of Governments
302 North 1 st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Paul Ward at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Maricopa County Department of Transportation** **Faisal Saleem**	2.	Telephone: **602-506-1241**
3.	E-mail **faisalsaleem@mail.maricopa.gov**	4.	Date: **09/01/2006**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2008-2012 MAG Transportation Improvement Program. Currently, funding is available ONLY for programming projects that seek to implement ITS improvements on the arterial street system. Freeway ITS improvements, through 2024, have been programmed.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name:

   Maricopa County Department of Transportation

2. Year (Please check only one box):

   ☐ FY 2008 ☐ FY 2009 ☐ FY 2010 ☒ FY 2012

3. Project Location (The project limits if applicable):

   Olive Avenue, from Litchfield Road to SR-101

4. Type of Work (Description of the work to be performed):

   Construction of new conduit and installation of new fiber optic cable for connectivity of existing traffic signals and future ITS field devices

5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.):

   $885,500

6. Type of Federal Funds Requested (Please check only one box.):

   ☐ MAG STP ☒ CMAQ

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.):

   $379,500

8. Type of Local Funds to be Used: (Please check only one box.):

   ☒ HURF ☐ Impact Fees

   ☐ General Fund ☐ Bond Proceeds

   ☐ Sales Tax ☐ Private

   ☐ Property Tax ☐ Other, Please specify: _____

9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):

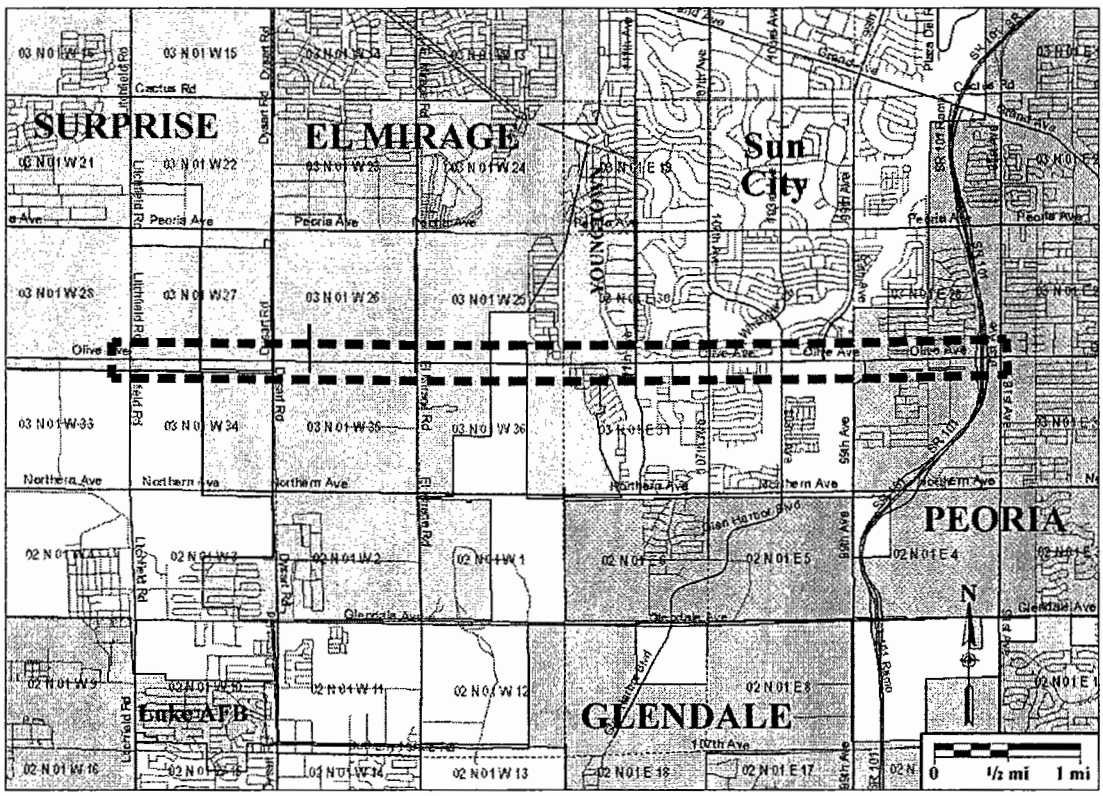
   $1,265,000

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.



2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes equipment purchase only, design, right-of-way acquisition and construction phases, and the relationship of the project to other programmed and planned projects in the TIP, ITS Strategic Plan, Regional Transportation Plan, local capital improvement programs or local plans.

This project involves the construction of new conduit and the installation of new fiber optic cable along Olive Avenue, between Litchfield Road and SR-101, plus the installation of wireless connections to the MCDOT traffic management system and to additional traffic signals not directly along the conduit route. The new infrastructure will provide connectivity for existing traffic signals and mid-block detection, and for future programmed ITS field devices. Equipment to be purchased as part of this project includes conduit, fiber optic cable, pull boxes, splice enclosures, wireless equipment, and incidental equipment related thereto. If a construction permits are needed in order to construct within the right-of-way of a jurisdiction other than Maricopa County, their acquisition will be included as part of this project. Design, right-of-way acquisition, and purchase of new ITS field devices are not included in this project.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

Olive Avenue is a key route, and enhancements will benefit travelers through the cities and towns of Peoria, Surprise, El Mirage, Youngtown and Sun City. Traffic volumes on this corridor have increased 50% in the last five years, and will continue to grow. This project will interconnect 24 traffic signals and several mid-block detectors to each other and to the MCDOT system. This project will also provide communications to support 2 future arterial DMS, and provide redundant communications to Peoria signals. Traffic signal coordination will improve traffic flow, decrease travel times, and reduce vehicle emissions along this corridor. Signal coordination and arterial DMS will enhance incident and special event traffic management (the Cardinals Stadium and Glendale Arena are near the eastern end of the project limits). Future arterial DMS also can be used for pollution advisories and incident management. Coordination with ADOT's FMS at the Olive/SR-101 interchange will facilitate greater freeway-arterial operations.

4. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

Conduit and Pull Boxes	$900,000.00
Backbone Fiber and Related Field Equipment	120,000.00
Branch Fiber	5,000.00
Support Equipment (Field Only)	65,000.00
Mobilization/Traffic Control/Removals	175,000.00
Signal modernization/CCTV/DMS	0.00*
Total	**$1,265,000.00**

*This project will install fiber to support enhanced operations and connectivity of devices. MCDOT will fund design, signal modernization, CCTV and DMS.

5. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

Prepare Base Plans	December 10 (Duration: 2 weeks)
Establish Utility and Right of Way for Project	December 10 (Duration: 1 week)
Existing Fiber Infrastructure & ITS Equipment Coordination	January 11 (Duration: 1 week)
Environmental Documentation/Mini-DCR	February 11 (Duration: 6 weeks)
Prepare 40% Plans	March 11 (Duration: 10 weeks)
Prepare 70% Plans	June 11 (Duration: 12 weeks)
Prepare 90% Plans	September 11 (Duration: 12 weeks)
Prepare 100% Plans	December 11 (Duration: 10 weeks)
Request Formal Obligation of Project Funds	February 12 (Duration: 24 weeks)
Bidding Phase Assistance	August 12 (Duration: 8 weeks)
Construction	October 2012-October 2013 (Duration: 1 year)

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **20,000 (2003 count)**	2. Name of the Roadway Section Used for the ADT Estimate: **Olive Avenue**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☒ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **4, except only 2 west of El Mirage Road (2.0 mi)**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **2-4 (no change)**	6. Length of the Facility (in miles): **5.9 miles**
7. Township Coordinate of the Midpoint of the Facility: **T3N**	8 Range Coordinate of the Midpoint of the Facility: **R1W**	9. Section Coordinate of the Midpoint of the Facility: **25/36**

10. If the project is expected to improve traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **50**

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐ Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐ Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐ Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☐ Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☒ Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐ Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

11. Other Project Information: (Check as many as are applicable):

- ☐ Includes Traffic Signal Improvements for a Single Agency
- ☒ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ The Project Conforms to Local Land Use Plans
- ☒ The facility is on the adopted MAG Roads of Regional Significance Network

12 Management System (Please check only one box)

- ☒ Congestion Management System (CMS)
- ☐ Bridge Management System (BMS)
- ☐ Pavement Management System (PMS)
- ☐ Public Transportation Management System (PTMS)
- ☐ Safety Management System (SMS)
- ☐ Intermodal Management System (IMS)
- ☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests (including any joint requests) for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

"1"

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects and must be submitted to MAG electronically following instructions provided under **Information at MAG website.**

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Project Review and Ranking Process

The MAG ITS Committee is responsible for reviewing all proposed projects and recommending a list of arterial ITS projects for each programming cycle. The committee has developed a new Project Rating System that is expected to be adopted on September 6, 2006. This system will be utilized by the committee to develop a preliminary ranking from the list of qualifying ITS projects submitted to MAG by member agencies. The final committee recommendation of projects for inclusion in the annual update of the Transportation Improvement Program (TIP) will be generated through a subjective ranking process that will consider: (1) Estimated reductions in emissions due to each project; (2) Ranking based on the Project Rating System; and (3) Project presentation by the proposing agency.

The determination, of which projects are considered qualified ITS projects eligible for federal funds, is based on the National ITS Architecture (developed by the USDOT) and the Regional ITS Architecture for the Phoenix metropolitan region (developed by MAG). A Regional ITS Architecture that is compatible with the National ITS Architecture is a federal requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems and provide related ITS User Services. All project applications must provide information on applicable ITS User Services and Market Packages, that will be directly addressed by the proposed project.

The project review and ranking process helps ensure that all proposed projects would further the regional goals for improving arterial traffic operations, road safety and advance regional integration, utilizing ITS applications. For each proposed ITS project, an application must be submitted to MAG using the Excel form available at the MAG website (see next page). For joint ITS projects, a single application must be submitted by the lead agency, clearly identifying contributions by each partner to the minimum local share of 30 percent. The following information is required for all projects and must be provided on the form.

- A brief project description narrative – goals, objectives, and how the project would addresses arterial ITS functions (see Draft Arterial ITS Plan at the MAG website)
- Requested project budget – Federal funds requested and local funds contributed by each agency (a minimum of 30 percent local match is required for all projects)
  Guidelines: (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1million per program year per agency (Exception - any regional ITS project that involves three or more MAG agencies). (2) Joint regional ITS projects that involve three or more MAG agencies may exceed $1million in federal cost. For these projects, the federal cost component in each jurisdiction will not be counted against the $1million limit. (3) there is no limit on the number of projects may be submitted, but each project requires the 30 percent local match
- A list of anticipated project tasks
- Proposed fiscal year and estimated timeline for project development and implementation – receipt of an ADOT project number, project obligation and final deployment (month/yr)
- The plan for maintaining and operating the proposed ITS elements in the project – source of local funds and availability of operators and maintenance personnel

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

- A commitment to address the federal requirement for a Systems Engineering Analysis of the proposed project within the agency's project development process (MAG guidelines on how to carry out this step will be forthcoming)
- Applicable ITS User Services, Market Packages from National ITS Architecture
- Required communications for data sharing with other agencies (if any)
- Information flows and data flows (REQUIRED for projects that will exchange information with other regional agencies)

Information at MAG website

The Excel sheet to be used for submitting information on proposed arterial ITS projects is available at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Other information available at this site:

Draft Arterial ITS Plan, August 7, 2006 – describes arterial ITS functions
Links to National ITS Architecture website and information on User Services and Market Packages

Part C Transmittal and Contact Information

Please submit Part C of this application via email, using the Excel sheet, to Leo Luo at:
lluo@mag.maricopa.gov

If you have questions or need assistance with the project application process, please contact Kiran Guntupalli or Leo Luo at (602) 254-6300.